Moderating Processes in the Link between Early Caregiving and Adult Individual and Romantic Functioning:
The Distinctive Contributions of Early Adult Romantic Relationships

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Dedication

For my parents, Dick and Betsy Salvatore; my maternal grandparents, Pat and Denis Dee; and the memories of my paternal grandparents, Joe and Mary Salvatore, and friend Christine Linnerud.
Abstract

This study tested a model of early adulthood romantic relationships as moderators of the effects of early caregiving experiences in predicting life satisfaction, romantic relationship quality, and depression/anxiety in later adulthood. Participants (n = 83) were a subsample from a 35-year longitudinal study of risk and adaptation. The quality of early caregiving was measured using a composite of infant attachment at 12 and 18 months, maternal supportive presence and hostility at 24 and 42 months, and maternal verbal and emotional responsivity at 30 months were included. The quality of early and later adulthood romantic relationships was assessed from in-depth interviews conducted with participants at ages 23 and 32. Life satisfaction was measured at age 32. Depression/anxiety symptoms were measured at ages 23, 26, and 32. Results indicated that early adulthood romantic relationships moderate early caregiving to predict trajectories of depression/anxiety symptoms between ages 23-32, but not the single measures of life satisfaction and romantic quality at age 32. The depression/anxiety findings are consistent with the organizational-developmental principle that individual functioning is a product of one’s developmental history and current circumstances, and offer a possible interpretation for the null interaction effects obtained in the life satisfaction and romantic quality analyses. Results underscore the importance of taking a developmental perspective on turning point phenomena.
# Table of Contents

List of Tables......................................................................................................................... v
List of Figures.......................................................................................................................... vii
Introduction and Theoretical Background............................................................................. 1
Method................................................................................................................................... 22
  Participants............................................................................................................................ 22
  Procedures and Measures...................................................................................................... 23
Results.................................................................................................................................... 30
  Validating Ages 23 and 32 Romantic Quality Composites..................................................... 30
  Focal Analyses....................................................................................................................... 32
Discussion and Conclusions.................................................................................................... 41
References............................................................................................................................... 51
Appendices............................................................................................................................... 58
  Appendix 1: Tables............................................................................................................... 58
  Appendix 2: Figures............................................................................................................... 75
  Appendix 3: Age 23 Romantic Relationship Scales............................................................... 78
  Appendix 4: Age 32 Romantic Relationship Scales............................................................... 87
List of Tables

Table 1: YASR and ASR items included in the depression/anxiety symptom composite and excluded items…………………………………………………………… 58
Table 2: Component loadings for ages 23 and 32 romantic relationship interview variables………………………………………………………………………………………… 59
Table 3: Zero-order correlations between age 23 romantic quality composite and concurrent target-reported relationship measures………………………. 60
Table 4: Zero-order correlations between age 20-21 observational and self-report relationship variables and age 23 romantic quality composite 60
Table 5: Zero-order correlations between age 32 romantic quality composite and concurrent target-reported relationship measures…………………………… 61
Table 6: Zero-order correlations between age 26-27 observational and self-report relationship variables and age 32 romantic quality composite. 61
Table 7: Descriptive statistics and zero-order correlations for variables in life satisfaction analyses………………………………………………………….. 62
Table 8: Hierarchical multiple regression predicting life satisfaction (age 32) as a function of early caregiving and age 23 romantic quality……………. 63
Table 9: Hierarchical multiple regression predicting life satisfaction (age 32) as a function of early caregiving and age 23 romantic quality (imputed data)………………………………………………………………………… 64
Table 10: Multiple regression predicting life satisfaction as a function of early caregiving and age 23 work competence……………………………. 65
Table 11: Descriptive statistics and zero-order correlations for variables in romantic quality analyses………………………………………………… 66
Table 12: Hierarchical multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 romantic quality……………………………………………………………………………. 67

Table 13: Hierarchical multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 romantic quality (imputed data)………………………………………………………….. 68

Table 14: Multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 work competence………………………………... 69

Table 15: Descriptive statistics and zero-order correlations for variables in depression/anxiety symptom analyses……………………………………………………………. 70

Table 16: Linear mixed model predicting trajectories of depression/anxiety symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality…………………………………………………………………………... 71

Table 17: Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality, including controls………………………………….. 72

Table 18: Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality (imputed data)……………………………………. 73

Table 19: Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 work competence………………………………………………… 74
List of Figures

Figure 1: Hypothesized age 32 life satisfaction and romantic quality results............ 75
Figure 2: Overview of focal measures................................................................. 76
Figure 3: Predicted depression/anxiety growth curves as a function of early caregiving and age 23 romantic quality......................................................... 77
Moderating Processes in the Link between Early Caregiving and Adult Individual and Romantic Functioning:

The Distinctive Contributions of Early Adult Romantic Relationships

Romantic relationships, as an important relationship context of adulthood (Collins, Hennighausen, Schmit, & Sroufe, 1997; Hazan & Shaver, 1994), have a high potential to prompt changes in psychosocial functioning. Indeed, the “turning point” potential of adult romantic relationships has long been recognized by criminologists and developmental psychologists interested in understanding the factors related to persistence in and desistance from childhood antisocial behavior (Laub & Sampson, 1993; Quinton, Pickles, Maughan, & Rutter, 1993; Roisman, Aguilar, & Egeland, 2004; Rutter, Quinton, & Hill, 1990; Sampson & Laub, 1990, 1993; Zoccolillo, Pickles, Quinton, & Rutter, 1992) and the correlates of adult psychosocial competence for at-risk youth (Rönkä, Oravala, & Pulkkinen, 2002). The present study tests a series of hypotheses derived from an organizational-developmental perspective that the ability to take advantage of turning point opportunities afforded by romantic relationships is best viewed as a product of one’s developmental history. The psychosocial outcomes of life satisfaction, romantic relationship quality, and depression/anxiety are examined.

Prior Studies of Romantic Relationships as Turning Points

The developmental significance of romantic relationships has made them one of the key variables in studies of continuity and discontinuity in the development of individuals at-risk for problems in adulthood. In a series of studies, Rutter and colleagues (Pickles & Rutter, 1991; Quinton et al., 1993; Rutter et al., 1990; Zoccolillo et al., 1992) found that involvement in a high-quality marriage, operationalized as an emotionally supportive and high intimacy relationship with a non-deviant spouse, differentiated those with high levels childhood conduct disorder who had few problems with work, relationships, and the law in adulthood from those who had many problems. The turning point effect of positive romantic involvement was replicated across multiple samples (e.g., a school-based sample, an inner-city sample, a geographically representative sample, and a sample raised in a London orphanage) varying in the number of childhood risk
factors, suggesting that the corrective effects of romantic relationships holds across a range of childhood experiences.

Similarly, Sampson and Laub’s (Laub & Sampson, 1993; Sampson & Laub, 1993) reanalysis of Glueck and Gleuck’s (1968) qualitative data on the developmental trajectories of delinquent boys found that marital quality predicted desistance in adult criminal activity. Those who formed a cohesive marriage, defined as the reciprocal process of personal investment in the marriage, were less likely to report adult criminality. In contrast, participants who formed relationships low in cohesion were more likely to continue on an antisocial trajectory. Pulkkinen and colleagues (Rönkä et al., 2002; Rönkä, Oravala, & Pulkkinen, 2003) made analogous observations in their longitudinal study of at-risk development. Data from a semi-structured turning points interview administered in adulthood were used to make qualitative comparisons between individuals exposed to a number of childhood risk factors who exhibited differential adaptation to the psychosocial tasks of adulthood. Many of the individuals who showed positive adaptation in adulthood identified romantic involvement with a supportive partner as a constructive turning point. Likewise, many of the individuals who struggled to adjust to the demands of adulthood cited involvement with a deviant partner (e.g., an alcoholic) as a turning point, albeit one with negative consequences.

Organizational-Developmental Perspective on Romantic Relationships as Turning Points

To date, the developmental literature has had relatively little to say about how one’s past may constrain his or her ability to capitalize on romantic relationships as turning points (for an exception see Quinton et al., 1993). Turning points are defined here as the internal and external circumstances leading to enduring psychological or behavioral change (Rutter, 1996). This lack of attention is surprising in light of modern views of development as a dynamic, transactional process between one’s current functioning and one’s prior history of adaptations (Bowlby, 1969/1982; Hinde & Bateson, 1984; Sameroff, 2009; Sroufe, Egeland, Carlson, & Collins, 2005; Werner, 1948). According to this dynamic perspective, prior adaptations to developmentally salient issues are not “erased from the tape” (Kagan, 1980, p. 240), but instead are incorporated
into the system as new developmental issues are negotiated while others wane in significance (Erikson, 1963).

An organizational-developmental perspective underscores the indirect and probabilistic links between experiences in the family of origin and adult psychosocial adjustment (Carlson, Sroufe, & Egeland, 2004; Overbeek, Stattin, Vermulst, Ha, & Engels, 2007; Sroufe et al., 2005). According to this formulation, although early experiences may initiate trajectories of functioning, one’s adaptation to subsequent developmental issues may either accentuate or compensate for prior adaptations. This latter point, in particular, has been borne out in both the human and non-human animal literatures, which indicate that positive later experiences can compensate for negative early ones (Harlow & Suomi, 1971; Rönkä et al., 2002) and, conversely, that positive early experiences do not always inoculate against subsequent negative ones (Schaffer, 2000; Sroufe, Egeland, & Kreutzer, 1990).

One of the implications of this perspective is that individuals’ developmental histories may differentially enable them to take advantage of the features of romantic relationships (e.g., caregiving, partner idealization, inclusion of other in self) that make them potent contexts for change. This may especially be the case given that many of the intrapersonal and interpersonal processes that are central to the formation and maintenance of high quality romantic relationships such as intimacy, trust, and self-esteem are partially rooted in experiences within the parent-child dyad (Collins et al., 1997; Collins & Sroufe, 1999; Collins & van Dulmen, 2006b; Conger, Cui, Bryant, & Elder, 2000; Goodvin, Meyer, Thompson, & Hayes, 2008; Simpson, Collins, Tran, & Haydon, 2007; Verschueren, Marcoen, & Schoefs, 1996). Related to this perspective is the idea that positive early caregiving experiences may serve as an “inner resource” in the face of adverse later experiences (Bowlby, 1973, 1980; Mikulincer & Florian, 1998; Mikulincer, Shaver, & Pereg, 2003; Sroufe et al., 1990). This is not intended to minimize the distress that people who have more favorable early caregiving histories may experience when confronted with a distressing situation such as a low-quality romantic relationship. Rather, the suggestion is that these
individuals may have more effective ways of coping with difficulties and, thus, may show better subsequent “rebounds” from them.

The strongest prospective evidence for this point comes from a study (Sroufe et al., 1990) of two groups of children who showed similarly poor adaptation during the preschool period in terms of the developmentally salient issues of self-regulation, curiosity, and persistence in problem solving, but who had distinct developmental histories. One group was securely attached in infancy and had mothers who supported their burgeoning autonomy during toddlerhood. In contrast, the other group was insecurely attached and their mothers did less to scaffold independence. Comparisons of the two groups’ social and emotional functioning in grades 1-3 indicated that those who had more favorable early caregiving experiences fared better later on, despite the two groups’ equally poor adaptation during the preschool period. These results are consistent with the perspective that positive early experiences may serve as enduring source of strength promoting positive adaptation that is not “lost,” even during a prolonged period of doing poorly (Sroufe et al., 1990).

Early adulthood romantic relationships are particularly well-suited to potentiate turning points for developmental pathways initiated in early childhood in view of the close ties between the developmentally-salient psychosocial tasks that define each age (Collins & van Dulmen, 2006b). In Eriksonian (1963) terms, the early childhood issue of hope (i.e., trust vs. mistrust) is particularly relevant to the early adulthood issue of love (i.e., intimacy vs. isolation) and the formation of close relationships. Studies of the developmental antecedents of competence in adult romantic relationships consistently demonstrate continuity between these two developmental achievements, providing evidence for this view. For example, Simpson and colleagues (2007) found that middle childhood peer competence and the degree to which one felt wholly accepted by a best friend in adolescence doubly mediate the link between one’s infant attachment security and adult romantic relationship outcomes. Similarly, Conger (2000) found that experiencing nurturant-involved parenting in adolescence predicts greater warmth and less hostility toward one’s romantic partner in early adulthood and Overbeek et al. (2007) found that
adolescent parent-child conflict (ages 15-17) and early adulthood romantic relationship quality (age 25) doubly mediate the link between early parent-child relationship quality (ages 4-10) and later adult romantic relationship quality (age 37). Studies of the legacy of early attachment experiences on behavior in adult romantic relationships provide convergent evidence. Individuals with secure-autonomous AAI representations engage in more constructive and fewer destructive behaviors when interacting with their partners compared to those with insecure states of mind, both concurrently and across time (Babcock, Jacobson, Gottman, & Yerington, 2000; Creasey, 2002; Crowell, Treboux, Gao et al., 2002; Holland & Roisman, 2010; Simpson, Rholes, Oriña, & Grich, 2002; Wampler, Shi, Nelson, & Kimball, 2003).

Although positive associations between the quality of early caregiving experiences and adult romantic outcomes are consistently found, they are not perfect predictors. Thus, people with less favorably early caregiving histories (e.g., a history of attachment insecurity) can go on to form secure adult partnerships. Likewise, even those who experienced high quality early caregiving can go on to form insecure adult partnerships. However, these early caregiving experiences are not lost in light of new experiences. Both “old” and “new” experiences systematically relate to psychological and behavioral outcomes (Haydon, Collins, Salvatore, Simpson, & Roisman, accepted pending revisions; Treboux, Crowell, & Waters, 2004).

The clearest example for this comes from studies examining configurations of adults’ state-of-mind with respect to their early caregiving experiences (measured using the Adult Attachment Interview [AAI]; George, Kaplan, & Main, 1985) and romantic partner (measured using the Current Relationship Interview [CRI]; Crowell & Owens, 1996). State-of-mind on the AAI refers to the ability to provide a thoughtful and coherent account of one’s childhood attachment experiences and their relation to adult functioning. Similarly, state-of-mind on the CRI refers to the ability to provide a thoughtful and coherent account of attachment-related behaviors in one’s current romantic relationship and evaluate the significance of those behaviors. Both measures discriminate between states-of-mind that are “secure” and those that are “insecure.” Configurations of security on these two measures relate to distinct patterns of relationship
functioning (Haydon et al., accepted pending revisions; Treboux et al., 2004). For instance, people with secure AAI representations but insecure CRI representations (i.e., SecAAI/InsCRI) report favorable levels of positive relationship feelings and conflict commensurate to those with secure AAI and CRI representations (i.e., SecAAI/SecCRI). However, the SecAAI/InsCRI group exhibits fewer secure base behaviors during a problem-solving task relative to the SecAAI/SecCRI group (Treboux et al., 2004). This pattern of findings, whereby a secure state of mind with respect to one’s early caregiving experiences buffers relationship perceptions, but not interactional behaviors, against an insecure romantic relationship, underscores the idea that past and present relationship experiences are related to unique patterns of thinking, feeling, and behaving.

Thus, according to the organizational-developmental reasoning outlined above, early caregiving experiences may: (1) limit individuals from fully benefitting from the types of high quality romantic relationship experiences that are likely to prompt positive turning points in psychosocial functioning, and (2) buffer individuals from negative experiences in romantic relationships, thereby attenuating potentially negative turning point effects. These ideas have not yet been tested using prospective longitudinal data, despite being a central feature of an organizational-developmental perspective. To fill this gap in the literature, a set of predictions examining early adulthood romantic relationships as moderators of the effects of early caregiving experiences in predicting life satisfaction, romantic relationship quality, and depression/anxiety in later adulthood are considered.

**Life Satisfaction.** Life satisfaction, one component of subjective well-being (Diener, Suh, Lucas, & Smith, 1999), is one’s cognitive evaluation of his/her quality of life according to self-defined criteria (Shin & Johnson, 1978). Life satisfaction is often positively correlated with the emotional components of subjective well-being (e.g., positive and negative affect; Pavot & Diener, 2009), but components do not completely overlap, nor do they have the same antecedents (e.g., Overbeek et al., 2007). A longitudinal study of spouses caring for a partner suffering from degenerative dementia provide some of the clearest evidence for the divergence between the cognitive and emotional components of subjective well-being (Vitaliano, 1991). Over the course of
the 1½ year study, ill partners’ medical condition declined significantly. Caregivers’ life satisfaction also declined; however, measures of affective well-being (e.g., depression, anxiety, and suppressed anger) remained unchanged.

Evidence from longitudinal and cross-sectional studies converge to suggest that the quality of interpersonal relationships early and later in life relate to life satisfaction outcomes in adulthood. In a study combining retrospective and prospective methods from the Berkeley Growth Study, Clausen (1972) found that women whose mothers were critical of them in the first three years of life retrospectively reported lower average trajectories of “morale” (i.e., relative perceptions of feeling that one is at “rock bottom” versus “tops”) from childhood through early adulthood (age 38). Using a similar retrospective method in the Oakland Growth Study sample, Runyan (1979) asked 38-year old participants to estimate their annual life satisfaction for each year of their life on a 9-point “low” to “high” scale and to report on life events that influenced ratings across time. Romantic relationship events and having children were related to high points that both men and women experienced in their 20s and 30s; likewise, marital conflict, dissolution, or childrearing problems related to low points. Cross-sectional and prospective longitudinal studies similarly find that life satisfaction is positively related to perceptions of satisfying close relationships, including romantic relationships (Diener & Seligman, 2002; Headey, Veenhoven, & Wearing, 1991).

In one long-term longitudinal study of the early correlates of psychosocial functioning in adulthood, Franz and colleagues (1991) found small- to moderately-sized positive associations between maternal and paternal warmth in predicting adult social functioning at age 41 in Sears, Maccoby, and Levin’s (1957) Patterns of Child Rearing Sample. In turn, adult social functioning positively correlated to a measure of “zest”, or psychological well-being related to feelings of clarity, competence, satisfaction with life, and optimism about the future. Unfortunately, the association between early caregivers’ warmth and zest was not directly assessed. Thus, it is unclear whether early caregiving experiences had a direct effect on life satisfaction in this sample. Overbeek et al. (2007) tested a theoretical model looking at dissatisfaction with life at age 37 as a
transactional process initiated in the early parent-child relationship and then propagated through close relationship functioning across development in a Swedish sample. Consistent with this perspective, they found that the quality of the early parent-child relationship (ages 4-10) negatively predicts parent-child conflict in adolescence (ages 15-17), which in turn negatively predicts romantic relationship quality in early adulthood (age 25), and subsequently one’s general life dissatisfaction (age 37). In a cross-sectional study of Belgian young adults between the ages of 22 and 23, Kins et al. (2009) found that targets’ life satisfaction was positively correlated with their perceptions of their parents’ support of their autonomy, as well as maternal and paternal reports of autonomy support.

Other factors related to the quality of one’s early caregiving (e.g., optimism, self-esteem, and depressive symptoms) also predict adults’ life satisfaction. For example, Daukantaite and Bergman (2005) examined optimism as a developmental precursor of life satisfaction in an all-female sample. Women’s attitudes toward the future at age 13, measured using ratings on six adjective pairs (e.g., good-bad, unfair-fair) had an indirect effect on age 43 life satisfaction via optimism in middle age (age 43). Similarly, in another longitudinal study of pathways to life satisfaction focusing on individual mental health as a predictor, Howard et al. (2010) reported bivariate associations indicating that depressive symptoms and expressed anger throughout the transition to adulthood, measured at 4 time points between ages 18-25, predicted lower life satisfaction at age 32. In particular, women whose depressive symptoms declined less during the transition to adulthood reported lower life satisfaction at age 32. A similar study in a New Zealand sample found an inverse relation between adolescent self-esteem and life satisfaction outcomes in late adolescence and early adulthood (Boden, Fergusson, & Horwood, 2008).

Taken together, these studies of life satisfaction suggest that features of the parent-child relationship and dispositional and mental health variables theoretically and empirically related to early parenting are important for initiating pathways, either direct or indirect, toward life satisfaction in adulthood. Moreover, the well-replicated cross-sectional and longitudinal positive association between life satisfaction and satisfying/high-quality romantic relationships suggests
that the quality of one’s early adulthood relationships may be uniquely suited to moderate the
effect of early caregiving on later life satisfaction.

**Romantic Relationship Quality.** Collins’s (2006a) developmental perspective on
romantic relationships emphasizes the cumulative nature of experiences in salient close
relationships across the lifespan (Collins et al., 1997; Collins & Sroufe, 1999; Collins & van
Dulmen, 2006a; Simpson et al., 2007; Sroufe et al., 2005). This process-oriented approach
asserts that the quality of care received in the parent-child relationship sets the stage for one’s
expectations about the willingness and availability of significant others to provide support in times
of distress. In turn, these expectations are hypothesized to transact with experiences in close
relationships across development, such that the expectations affect and are affected by these
experiences (Carlson et al., 2004; Collins & Sroufe, 1999; Sroufe et al., 2005).

At the heart of a child’s expectations about the benevolence of caregivers are the issues
of interpersonal intimacy and trust (Collins et al., 1997; Collins & Sroufe, 1999; Erikson, 1963).
Intimacy refers to the interactive process through which an individual comes to feel understood,
validated, and cared for by a partner (Reis & Shaver, 1988). Trust refers to the more general
psychological state of believing that a partner will reliably cooperate to help one reach desired
outcomes (Simpson, 2007). As the recipients of sensitive and responsive care, infants who share
a secure attachment relationship with their caregiver experience the interactional reciprocity that
promotes the development of intimacy and trust (Collins et al., 1997; Collins & Sroufe, 1999). In
contrast, the inconsistent, hostile, or frightening care experienced by infants whose attachment
relationships are classified as avoidant, resistant, and disorganized lack this interpersonal
synchrony, undermining the development of these core interpersonal processes.

A key hypothesis of Collins’s developmental perspective on romantic relationships is that,
in the absence of corrective or compensatory experiences, disruptions to intimacy and trust
originating in the parent-child relationship should relate to interpersonal difficulties in the salient
relational domains marking each period of the lifespan. That is, failure to successfully negotiate
these early socioemotional issues interferes with the ability to effectively engage in subsequent
ones because the individual is ill-equipped to handle the increasingly sophisticated interpersonal demands. As such, positive romantic experiences in early adulthood for someone with a negative early caregiving history may provide the necessary corrective experience for developing interpersonal intimacy and trust (Bowlby, 1988; Hazan & Shaver, 1994). Conversely, negative romantic experiences may lead one further down a less optimal developmental path, making it less likely that s/he will be able to form and maintain romantic relationships high in intimacy and trust later on in adulthood. In a recent study related to the former point, we found that the relationships of individuals who were insecurely attached in infancy but whose adult romantic partners were good at self-regulating in the moments following conflict were very stable over two years (Salvatore, Kuo, Steele, Simpson, & Collins, 2011). We interpreted this as evidence that highly skilled romantic partners’ ability to scaffold the process of recovering from conflict can help compensate for the toll that insecurely attached individuals’ difficulties with emotion regulation typically takes on relationships (e.g., Hammen, 1992) in order to stabilize the relationship across time.

It should be noted that there is some debate in the literature on the power of young adult romantic relationships to predict later romantic outcomes. Drawing on developmental task theory (Havighurst, 1948/1972), Roisman et al. (2004) found that competence in early adulthood romantic relationships (measured around age 20 using interviewer-based ratings of romantic intimacy and involvement, sexually responsible behavior, and self- and parent-reports of the target’s romantic relationship effectiveness) did not predict competence in later adulthood romantic relationships (measured around age 30 using clinical ratings of romantic quality and involvement, self-reports of closeness and compatibility, interviewer ratings of romantic competence, and parent reports on parallel measures). However, others have found evidence for continuity between adolescent dating involvement and quality and young adult romantic relationship quality (Madsen & Collins, in press), as well as continuity between romantic quality in early (age 25) and later (age 37) adulthood (Overbeek et al., 2007).
**Depression/Anxiety Symptoms.** Major models of the interpersonal causes, consequences, and correlates of adulthood depression or depressive symptoms focus on the role of childhood caregiving experiences and adult romantic relationships. Bowlby’s attachment theory (1969/1982, 1980) arguably provides the most comprehensive and empirically generative account of how interpersonal experiences (particularly early caregiving experiences) contribute to development of depression and depressive symptoms across the lifespan.

According to this theory, inconsistent or inadequate early caregiving sets into motion maladaptive beliefs concerning the value of the self and the supportiveness of others. Related to the former point, cross-sectional and longitudinal evidence from child and adolescent samples demonstrate positive relations between explicit self-esteem and attachment security (Cassidy, Ziv, Mehta, & Feeney, 2003; Clark & Symons, 2000; Doyle, Markiewicz, Brendgen, Lieberman, & Voss, 2000; Goodvin et al., 2008; Sroufe et al., 2005; Verschueren et al., 1996). Despite the absence of longitudinal data linking childhood attachment and adult self-esteem, evidence for its rank-order stability across the lifespan (Robins & Trzesniewski, 2005) suggests that the attachment-related differences observed early in life may persist over time. Given the centrality of low self-esteem to the development of depression and depressive symptoms, such findings suggest that low quality early caregiving may represent an enduring vulnerability for subsequent emotion functioning. Additionally, disruptions to the dyadic regulation processes embedded in the early caregiving relationship undermine the development of self-regulatory abilities (e.g., ego resiliency) that are associated adaptive emotion functioning (Schore, 2001; Sroufe, 1996).

As Simpson and Rholes (2004) note, little is known prospectively about whether early caregiving experiences have a direct effect on depression and depressive symptoms in adulthood. One prospective longitudinal study found an inverse relation of moderate size between supportive early care and adolescent depressive symptoms (Duggal, Carlson, Sroufe, & Egeland, 2001). Instead, much of what is known in the developmental literature on the links between early caregiving and later depressive symptomatology comes from studies using the Adult Attachment Interview. Meta-analytic findings indicate that insecure AAI classifications are related to...
psychological disorders, although there does not appear to specificity between AAI classification (i.e., Insecure-Preoccupied vs. Insecure-Dismissing) and diagnostic categories (Van IJzendoorn, 1995).

Although the major AAI classifications show no specific links to clinical diagnoses, the distinction between earned and continuous security discriminates between depressive symptoms (Pearson, Cohn, Cowan, & Cowan, 1994; Roisman, Padron, Sroufe, & Egeland, 2002). Under the AAI coding scheme, individuals who describe difficult and negative early relationships but do so in a coherent way (i.e., by providing a consistent narrative and convincing details) are said to have “earned” their security. In contrast, individuals who describe positive early relationships in a coherent way are said to be “continuously secure.” In an early study of the psychosocial functioning of earned- versus continuous-secures, Pearson et al. (1994) found that earned security was associated with greater depressive symptomatology. Thus, results from this initial study indicated that vulnerability to depressive symptoms was an enduring psychological “cost” of one’s negative early experiences.

This cross-sectional depression effect was replicated using data from a longitudinal sample (Roisman et al., 2002). Furthermore, individuals from this longitudinal study who were classified as earned-secure also had a history of elevated levels of depression symptoms according to mother and self reports collected in childhood and adolescence. However, when the prospectively measured early caregiving experiences for the continuous- and earned secure groups were compared, there was no evidence that those classified as earned secure actually experienced poorer early care. In fact, earned secures experienced some of the highest quality caregiving in infancy and had high quality relationships with their mothers in adolescence, calling into question the interpretation that vulnerability to depressive symptoms is the cost of overcoming negative early experiences (Roisman et al., 2002). This finding reiterates a point made by the AAI’s developer, Mary Main, that one must be careful in inferring, on the basis of AAI ratings, the role of early caregiving in predicting adult psychosocial outcomes.
Although he emphasized the special significance of early caregiving in the etiology of
depression, Bowlby (1988) also recognized the significance of close relationships across the
lifespan. Consistent with this perspective, much empirical attention has been paid in the marital
literature to the association between relationship satisfaction, quality, and depression/depressive
symptoms. Cross-sectional and longitudinal studies consistently document an inverse association
between partners’ depressive symptoms or clinical depression diagnoses and marital adjustment
(Proulx, Helms, & Buehler, 2007). In one of the first studies of this kind, Renne (1970) found a
strong inverse association between self-report marital satisfaction (measured using items tapping
overall relationship happiness, understanding, affection, conflict, and regret, and thoughts of
relationship dissolution) and depression/isolation (measured using items tapping loneliness,
depression, boredom, general dissatisfaction, and feelings of purposelessness and
meaninglessness) for both men and women. Since then, a number of studies have replicated this
finding. The majority of these studies have been cross-sectional, and studies taking a longitudinal
view have tended to be short-term and have measured only two time-points (Proulx et al., 2007).
A recent meta-analysis of 93 studies on marital quality and individual well-being outcomes
including depressive symptoms (reverse coded), self-esteem, life satisfaction, global happiness,
and physical health found that this link was of moderate effect size when examined cross-
sectionally (r = .37) and of small effect size longitudinally (r = .25) (Proulx et al., 2007). A more
focused meta-analysis of 26 cross-sectional studies in community samples similarly reported that
the link between marital quality and depressive symptoms similarly is of moderate effect size (r =-
.37) (Whisman, 2001).

Two theoretical models, the marital discord model (Beach, Sandeen, & O’Leary, 1990)
and the stress-generation model (Hammen, 1991), dominate research on the mechanisms driving
the relationship between depression/depressive symptoms and marital functioning. According to
the marital discord model (Beach et al., 1990), there is a unidirectional flow from relationship
problems to depressive symptoms and clinical depression. The model states that a problematic,
unsatisfying romantic relationship removes partners’ main source of social support (i.e., each
other), leading to depression. Early work testing this model relied on the retrospective reports of depressed individuals of the triggers of depressive episodes. Since then, randomized intervention studies have provided evidence for the proposed direction of the marital distress → depression effect. For example, women suffering from depression who were randomly assigned to receive marital therapy or individual cognitive therapy experienced similar decreases in depressive symptoms across a 16-week study period compared to a wait-list control group. However, only women in the marital therapy group experienced increases in marital satisfaction across that same period, suggesting that decreases in women’s depression did not improve marital satisfaction (O’Leary & Beach, 1990).

In contrast to the unidirectional effects from marital problems to depression, Hammen (1991, 1992) takes a transactional perspective in her interpersonal stress-generation model of depression. This perspective emphasizes the role that individuals suffering from (or vulnerable to) depression play in creating interpersonal stressors that in turn aggravate their depressive symptoms. Consistent with this view, a longitudinal prospective study showed that women suffering from clinical unipolar depression tend to experience more stressful life events compared to a non-clinical community control group. Furthermore, compared to women suffering from another psychiatric condition (bipolar disorder), a non-psychiatric medical condition, or community controls, women suffering from depression tended to experience life events that were dependent on their own behaviors and actions (e.g., not studying for a required work exam). Lastly, women suffering from depression were more likely experience more interpersonally stressful events that depended in part on their own actions (e.g., moving out after a fight with a spouse) compared to women in the other control groups (Hammen, 1991). Thus, depressed individuals not only are more likely to have less satisfying close relationships, but they may also contribute to the creation of interpersonal problems that maintain or exacerbate their symptoms over time.

Davila and colleagues (1997) tested a key proposition of this model, namely that spouses’ depressive symptoms would predict increases in marital stress that would in turn exacerbate depressive symptoms. A sample of newlyweds was assessed at two time-points over
a one-year period. Women’s data showed evidence for the hypothesized transactional model. Controlling for Time 1 marital stress and depressive symptoms, women’s Time 1 depressive symptoms predicted their Time 2 marital stress, which in turn predicted their Time 2 depressive symptoms. In contrast, men’s data showed evidence for within-domain continuity (e.g., Time 1 marital stress predicted Time 2 marital stress and Time 1 depressive symptoms predicted Time 2 depressive symptoms), but there was no evidence that depressive symptoms and marital stress were affected by one another over time.

Hammen (1992) underscores the need to look at this transactional stress-generation process developmentally. Hammen (1992), like Bowlby (Bowlby, 1969/1982, 1980), suggests that vulnerability to depression may be partially rooted in negative early interpersonal experiences. These experiences, such as insecure attachment, initiate a developmental pathway leading to negative working models of self and other. In turn, negative working models are likely to be associated with the interpersonal and cognitive vulnerabilities linked to depression (e.g., excessive reassurance seeking, dependency, negative biases in social information processing). To the extent that these vulnerabilities play out in relationships, negative cognitions about the self and others are reinforced, and may contribute to the creation of additional stressful events that aggravate depressive symptoms.

The interpersonal stress-generation hypothesis was also recently tested in a short-term (4 week) longitudinal study of adult attachment styles, stress, and depression in 104 undergraduate women involved in romantic relationships (Eberhart & Hammen, 2010). Consistent with the stress-generation model, relationship conflict stress that occurred during the 4-week study period mediated the link between anxious attachment (i.e., fears of being abandoned or rejected by a partner, as measured using the Experiences in Close Relationships-Revised [ECR-R]; Fraley, Waller, & Brennan, 2000) and depression, controlling for initial levels of depression. This mediation effect was large and accounted for 56% of the variance between anxious attachment and depressive symptoms. Daily diary data collected from participants corroborated and extended this longitudinal finding. Each evening, participants reported on their daily
interpersonal behaviors, which included selected items from ECR-R’s anxious and avoidant subscales, questions about daily romantic stressors (e.g., disagreements), and depressive symptoms. Participants’ attachment anxiety and avoidance positively correlated with their daily depressive symptoms, and these effects were mediated by daily romantic conflict stress. The effect sizes for these mediation effects were small (accounting for 19% of the variance in the anxious attachment main effect) to moderate (accounting for 31% of the variance in the avoidant attachment main effect). Such findings suggest that romantic conflict stress is one potential stress-generating mechanism driving the link between beliefs about the sensitivity and responsiveness of close relationship partners, which are believed to be rooted in early caregiving experiences, and depressive symptoms.

Although the present study does not directly test Hammen’s (1991) interpersonal stress-generation model, the model’s core tenets related to the interpersonal antecedents of adult depression are closely related to the organizational-developmental perspective taken here. First, both Hammen’s model and the organizational-developmental perspective emphasize the role of early caregiving experiences in initiating a developmental pathway that may make one more vulnerable to depressive symptoms or depression. Second, the organizational-developmental perspective and Hammen’s model suggests that this vulnerability to depression is expressed only when it is reinforced by later negative interpersonal circumstances. Thus, when later interpersonal circumstances, such as a high quality romantic relationship, disconfirm previously established maladaptive views of self and other, one would expect to observe a buffering effect.

**Hypotheses.**

As the literature reviewed above indicates, life satisfaction, romantic relationship quality, and depression/anxiety in adulthood are meaningfully linked to the quality of early and later interpersonal relationships. In keeping with the organizational-developmental principle that individual and romantic functioning is a product of both early and later experiences the following predictions concerning how romantic relationship experiences in early adulthood might moderate the effects of early caregiving experiences to predict psychosocial functioning in these three
domains emerged. The predictions for each of these outcomes were derived from the same organizational-developmental logic. Simple moderation predictions for life satisfaction and romantic relationship quality are presented first because these dependent variables were only available at one time point. Next, predictions for depression/anxiety symptoms are presented. Longitudinal data on depression/anxiety symptoms were available in the present sample; accordingly, predictions are made for both intercepts and slopes.

**Life satisfaction and romantic relationship quality hypotheses.** The direction of the predicted interaction effect for the age 32 life satisfaction and romantic relationship quality outcomes, shown in Figure 1, reflects the hypothesized compensatory effects of high quality romantic relationships and the buffering effects of high quality early caregiving described previously. The two concordant groups are hypothesized to anchor the extreme high and low ends of romantic relationship functioning and life satisfaction in later adulthood. That is, those who experienced high quality early care and a high quality romantic relationship in early adulthood are expected to report the highest life satisfaction and should be involved in the highest quality romantic relationships at age 32. Likewise, individuals who experienced low quality early care and a low quality romantic relationship at age 23 are expected to report the lowest life satisfaction and should be involved in the lowest quality romantic relationships at age 32. The psychosocial functioning of the off-diagonal groups (i.e., those with discordant early caregiving and early romantic relationship quality) is hypothesized to lie somewhere between these extreme groups. The two discordant groups are not hypothesized to differ from one another on these outcomes, in keeping with Bowlby’s (Bowlby, 1969/1982, 1980) assertion that both later and earlier experiences matter and that neither is likely to be favored over the other, on average.

**Depression/Anxiety Hypotheses.** Predictions about how early caregiving and romantic relationship experiences might interact to predict trajectories of depression/anxiety symptoms over time in adulthood were derived from similar organizational-developmental logic. First, individuals who experienced low quality early caregiving and had a low quality early adulthood romantic relationships are hypothesized to have the highest initial levels of depression/anxiety
symptoms. Second, these individuals’ symptoms should increase over time, given the potentially reciprocal influence between negative close relationship experiences and depression/anxiety symptoms (Hammen, 1991). Third, those who have concordantly positive caregiving and romantic relationship experiences are hypothesized to have the lowest initial levels of depression/anxiety symptoms and little or no increase in depression/anxiety symptoms over time.

The discordant groups’ depression/anxiety intercepts are anticipated to be between those of the two extreme concordant groups. As with the simple moderation predictions described earlier, neither discordant group should be higher or lower than the other in initial depression/anxiety. Examining the slopes to these two groups offers a unique opportunity to see how proximal and distal relationship experiences interact to predict trajectories of adult depression/anxiety symptoms. Of particular interest are those individuals who had low quality early care but a high quality romantic relationship in early adulthood, given their heightened vulnerability to adjustment problems. Two competing hypotheses concerning how this group’s depression/anxiety symptoms may change over time are further considered below. One was derived from theory and evidence suggesting that high quality close relationships can be associated with socio-emotional costs, especially for those who are predisposed (because of family background or genetic factors) to depressive symptoms (Hammen, 1992; Rose, Carlson, & Waller, 2007). This is because a high quality romantic relationship may provide a context for co-ruminating (i.e., excessively discussing problems) that may then amplify psychological distress. Accordingly, individuals who had poor early caregiving experiences and who form high quality romantic relationships in early adulthood might increase in depression/anxiety symptoms over time. This hypothesis is tentative, however, given recent evidence suggesting co-rumination with a romantic partner is not always related to depression or anxiety symptoms (e.g., Calmes & Roberts, 2008). The contrasting second hypothesis, based on the premise that positive adult romantic relationship experiences can partially offset negative early caregiving, suggests that individuals who have this configuration may decrease in depression/anxiety symptoms across time.
Covariates and Discriminant Predictions. Gender is examined as another possible moderator of the predicted effects described above given. These analyses are primarily exploratory and no explicit hypotheses are made. The dependent variable for which gender differences are most likely to be observed is depressive symptoms, in view of well-documented gender differences in this area (Nolen-Hoeksema & Girgus, 1994) as well as findings that indicate that women may be more vulnerable to depression in response to interpersonal stressors (Davila et al., 1997; Hammen, 1991). Having a child will also be examined as a covariate to more thoroughly examine the unique and specific effects of romantic relationship experiences versus the life event of having a child, which covaries with relationship involvement. No explicit predictions are made; however, past research looking at romantic relationship involvement as turning points for alcohol use find that the turning point effect of close relationships is greater than the transition to parenthood (Chilcoat & Breslau, 1996). Age 23 romantic relationship length, marital, and cohabiting status are also statistically controlled for to examine the effects of relationship quality as opposed to these potential confounds.

Finally, competence in the workplace, another salient domain of adaptation in early adulthood will be examined as a discriminant moderator of early caregiving in predicting these psychosocial outcomes. Competence in work and romantic relationships draw upon related but distinct developmental achievements (Collins & van Dulmen, 2006b). In Eriksonian (1963) terms, the early childhood issue of hope (i.e., trust vs. mistrust) is particularly relevant to the formation of close relationships, while the middle childhood issue of competence (i.e., “making things work”) is more relevant to the world of work. According to this reasoning, romantic relationship experiences (versus work experiences) are likely to be a more potent context for moderating the effects of early caregiving.

Summary of Present Research and Hypotheses

In summary, the present study was designed to test the organizational-developmental hypothesis that young adult romantic relationship quality moderates the relation between early maternal care and later adult psychosocial adjustment outcomes. The outcomes examined
include life satisfaction, romantic relationship quality, and depression/anxiety symptoms. This study draws on data from an on-going 35-year longitudinal study of children born into poverty. An at-risk sample is particularly well-suited for addressing the hypothesized moderation effects because of the relatively large variation observed in early caregiving and romantic relationship quality relative to more stable middle-class samples.

Early caregiving was measured at multiple time points during the first four years of life using standardized laboratory procedures and a well-validated observer rating of the home environment. Young adult romantic relationship quality was assessed at age 23. The dependent variables of life satisfaction and romantic relationship quality were measured at age 32. Validation data for the age 23 and 32 romantic relationship quality variables are presented first because these measures’ psychometric properties have not been detailed previously. Longitudinal data for the depression/anxiety dependent variable were collected at ages 23, 26, and 32.

To summarize, three major groups of hypotheses are tested:

1. **Construct validity of interview-based romantic relationship quality measures (ages 23 and 32).** Extensive validity information for the early caregiving measures used in the present study are presented elsewhere (Appleyard, Egeland, & Sroufe, 2007; Duggal et al., 2001). In contrast, the construct validity of the interview-based romantic relationship composites from ages 23 and 32 has not yet been systematically assessed. Given the centrality of these composites to the hypotheses that follow, confirming the factor structure of these composites and establishing their construct validity was a necessary first step. First, a confirmatory principal components analysis is used to the hypothesis that the five interview-based variables (Enjoyment, Commitment, Security, Conflict Resolution, and Overall Quality) load on a single Relationship Quality component (*Hypothesis 1a*). Then, the construct validity of these measures is assessed two different ways: (1) by examining the intercorrelations between targets’ scores on these composites and other self-report variables (targets’ reports of physical aggression, love, relationship satisfaction, and relationship length) also collected from targets at ages 23 and 32.
(Hypothesis 1b) and (2) by examining the intercorrelations between targets’ scores on these composites and observational and self-report relationship data available for a subset of targets and their partners who previously participated in a couples assessment (Hypothesis 1c).

2. **Age 32 Life Satisfaction and Romantic Relationship Quality.** It is hypothesized that a high quality romantic relationship at age 23 will compensate for poor quality early caregiving and that high quality early caregiving will buffer against the negative effects of a low quality romantic relationship at age 23 to predict age 32 life satisfaction (Hypothesis 2a) and romantic relationship quality (Hypothesis 2b). The two concordant groups (i.e., the targets who had high early care and a high quality romantic relationship, or poor early care and a low quality age 23 romantic relationship) are hypothesized to anchor the extreme high and low ends of romantic relationship functioning and life satisfaction at age 32. These effects are expected to hold after controlling for a number of potential confounds, including: gender, age 23 relationship length, age 23 marital and cohabiting status, SES and financial health, relationship stability, age 23 romantic relationship, and having a child. Gender is also examined as a moderator of the hypothesized two-way interaction between early caregiving and age 23 romantic quality, although no directional hypothesis is made. Results for complete-case and multiply imputed data are presented. Finally, a competing model examining early adulthood work competence as a moderator of early caregiving is examined. Model fit comparisons are expected to show superior fit for the early adulthood romantic relationship model (Hypothesis 2c).

3. **Trajectories of Depression/Anxiety Symptoms (Ages 23, 26, and 32).** The two concordant groups are hypothesized to anchor the extreme high and low trajectories. Those who experienced low quality early caregiving and had a low quality age 23 romantic relationship should have the highest initial levels of depression/anxiety symptoms (Hypothesis 3a). Furthermore, their symptoms are expected to increase over time, given the potentially reciprocal influence between negative close relationship experiences and
depression/anxiety symptoms \((Hypothesis \, 3b)\). In contrast, those who have concordantly positive caregiving and romantic relationship experiences should have the lowest initial levels of depression/anxiety symptoms that do not increase over time \((Hypothesis \, 3c \, \text{and} \, 3d)\). The two discordant groups are hypothesized to have intercepts between the two extreme groups \((Hypothesis \, 3e)\). Two competing hypotheses \((Hypotheses \, 3f)\) concerning how the low early caregiving/high age 23 romantic quality group’s depression/anxiety symptoms: (1) they might increase in depression/anxiety symptoms over time because a high quality romantic relationship may offer a context for co-ruminating (2) they might decrease in depression/anxiety symptoms across time in view of the idea positive adult romantic relationship experiences can partially offset negative early caregiving. These hypothesis effects are expected to hold after controlling for the confounds listed above. Gender is also examined as a moderator of the hypothesized two-way interaction between early caregiving and age 23 romantic quality, although no directional hypothesis is made. Results for complete-case and multiply imputed data are presented. Finally, a competing model examining early adulthood work competence as a moderator of early caregiving is examined. Model fit comparisons are expected to show superior fit for the early adulthood romantic relationship model \((Hypothesis \, 3g)\)

**Method**

**Participants**

Data for testing these predictions came from the Minnesota Longitudinal Study of Risk and Adaptation (MLSRA; Sroufe et al., 2005). Target participants include approximately 165 first-born children who have been studied intensively since birth. Participants’ mothers were originally recruited into the study during the third trimester of pregnancy while receiving prenatal care through Minneapolis Public Health Clinics. The analyses in this paper are primarily based on a subset \((n = 83, \, 55\% \, \text{female}, \, 45\% \, \text{male})\) for whom measures of early caregiving, early adulthood romantic relationship quality, and later adulthood psychosocial outcome measures are available. Sample sizes for specific analyses vary and are noted in the text. Sixty-six percent of participants
in the subsample were White, 23% were of mixed, other, or unknown race, and 11% were Black. Average maternal age at birth was 21 years, and average maternal education was 12 years. The majority (59%) of participants’ mothers were single at the time of the child’s birth.

To examine whether the subset was different from the rest of the sample, a series of comparisons on major demographic variables were run. The distribution of race and gender did not differ between the full sample and the subsample according to non-significant chi-square tests. In addition, non-significant t-tests and chi-square tests indicated that participants in the subsample did not differ (p < .05) from the rest of the sample in terms of SES prenatally and at 42 months, maternal IQ, or maternal age, years of education, or marital status at time of birth, or quality of early caregiving.

Procedures and Measures

The focal measures in the study are summarized graphically in Figure 2 and described below.

**Early caregiving composite.** Early caregiving variables tapping the emotional supportiveness of the early caregiving (i.e., age 4 and earlier) environment were selected a priori from those available through the longitudinal dataset in order to create an early caregiving composite. Measures of infant attachment at 12 and 18 months, maternal supportive presence and hostility at 24 and 42 months, and maternal verbal and emotional responsivity at 30 months were included. Standardized scores on each of these variables were calculated and averaged in order to create a single indicator of early caregiving. Average scores were calculated for participants for whom at least two of the contributing measures were available. Previous studies show this composite is a powerful predictor of later psychosocial outcomes in this sample (e.g., Appleyard et al., 2007; Duggal et al., 2001).

**Infant attachment (12 and 18 months).** Ainsworth’s Strange Situation procedure (Ainsworth, Blehar, Waters, & Wall, 1978) was conducted with participants and their mothers at 12 and 18 months to assess the quality of the attachment relationship at each age. The 20-minute procedure involves a series of mildly distressing separations of the infant from his/her
mother in an unfamiliar setting as well as the introduction of a stranger. Assessments were videotaped and later classified by trained raters on the basis of the infant’s behavior in response to the maternal separations and reunions into one of three organized classifications (secure, anxious-avoidant, or anxious-resistant). Inter-rater agreement was 89% at 12 months and 93% at 18 months.

For the purposes of the Early Caregiving composite the conventional secure versus insecure distinction was adopted and to calculate a cumulative “times secure” variable. Thus, for each assessment, dyads coded as anxious-avoidant and anxious-resistant were assigned a 0 and those classified as secure were assigned a 1. The cumulative times secure variable was created by summing the dichotomous variables from each time point such that possible values for this included 0 (never secure), 1 (secure at either 12 or 18 months), or 2 (secure at both 12 and 18 months).

**Maternal supportive presence and hostility (24 and 42 months).** Maternal supportive presence and hostility were coded from observations of participants and their mothers completing tasks that challenged both partners and the dyad at 24 and 42 months. At 24 months, participants and their mothers were videotaped during a laboratory-based problem solving procedure (Matas, Arend, & Sroufe, 1978) in which the child was to solve a series of increasingly difficult problems that challenged his/her ability level. The mother was in the room and available to help. At 42 months, participants and their mothers were videotaped during a laboratory-based teaching task (Erickson, Sroufe, & Egeland, 1985). During this task, mothers were told give their child whatever level of help they believed was appropriate for a series of problem-solving scenarios.

Trained coders later rated these videotapes for the degree to which the mother expressed positive regard and emotional support for her child during the session (supportive presence) as well as the degree to which she derogated or rejected the child (hostility). Ratings were made on separate 7-point unidimensional low-to-high scales. Inter-rater reliabilities were high for the scales at both time points: $\text{ICC}_{\text{support/24 mo}} = .72$, $\text{ICC}_{\text{hostility/24 mo}} = .87$, $\text{ICC}_{\text{support/42 mo}} = .75$, $\text{ICC}_{\text{hostility/42 mo}} = .80$. Hostility was subtracted from supportiveness at each age prior to
standardization, in view of the fact that hostility undermines supportiveness. At 24 months, two coders conferred scores on the original 1-7 point scale. At 42 months, scores from two coders on each of the 7-point scales were combined to yield scores from 2-14.

**Maternal emotional and verbal responsivity (30 months).** During the 30 month home visit, MLSRA project staff completed the 45-item Caldwell Home Inventory (Caldwell, Heider, & Kaplan, 1966). The Emotional and Verbal Responsivity subscale indexes the quantity and quality of the mother’s interactions with and support of the child. The scale is the sum of eleven dichotomous items that may characterize the home environment, with higher scores indicating more favorable circumstances. The reliability estimate (Kuder-Richardson 20 formula) of the Home Inventory total scale was calculated as .93.

**Young adult and adult romantic relationship quality (ages 23 and 32).** At ages 23 and 32, participants who were in romantic relationships of 4 months or longer (6 months or longer for the 32-year interview) were interviewed concerning their experiences in that relationship. The relationship length cutoffs were instituted to increase the chance that the relationship was well-established and that participants had a range of experiences relevant to the types of examples they would be asked to provide during the interview. Participants responded to a standard set of questions about times they felt especially close to their partner, whether they could be completely themselves and share anything with their partners, how the couple resolved conflict, and relationship commitment.

Interviews were audiotaped and trained coders rated them on separate scales of Enjoyment, Commitment, Security, Conflict Resolution, and Overall Quality (Collins et al., 1999; Collins et al., 2009). All scales were 5-point unidimensional Likert-type scales anchored low-to-high. Enjoyment was the degree to which the participant viewed the relationship as a source of happiness, pleasure, and good feelings. Commitment was the degree to which participant desired the relationship to be stable and long-term and invested resources in the relationship. Security was the degree to which the partner was viewed as available, responsive, and fully accepting of the participant in both good and bad times. Conflict resolution was the degree to which the
couple’s strategies for managing conflicts were effective and equitable to both parties. Overall Quality was the degree to which mutual caring, trust, emotional closeness, self-sacrifice, and sensitivity characterized the relationship as a whole. Inter-rater reliabilities between two coders at age 23 were high, $\text{ICC}_{\text{Enjoyment}} = .93$, $\text{ICC}_{\text{Commit}} = .93$, $\text{ICC}_{\text{Security}} = .89$, $\text{ICC}_{\text{ConRes}} = .93$, $\text{ICC}_{\text{Qual}} = .94$. Reliability for the four coders of the age 32 interviews were also high, $\text{ICC}_{\text{Enjoyment}} = .94$, $\text{ICC}_{\text{Commit}} = .94$, $\text{ICC}_{\text{Security}} = .90$, $\text{ICC}_{\text{ConRes}} = .93$, $\text{ICC}_{\text{Qual}} = .95$.

To create the age 23 Romantic Relationship Quality composite, scores on the five scales were z-scored and averaged. There were 5 instances of missing data on scales making up the Age 23 Romantic Relationship Quality composite. In three cases, participants were missing data on the Conflict Resolution variable due to insufficient information for coding. In two other cases, participants were missing data on the Commitment variable due to insufficient information for coding. Averaging available data allowed these degrees of freedom to be retained in the complete-case analyses. There were no missing data on the scales making up the Age 32 Romantic Relationship Quality composite, and scores on the five scales were z-scored and summed to calculate total composite scores.

**Depression/anxiety symptoms (ages 23, 26, and 32).** Participants completed the 119-item Young Adult Self-Report for ages 18-30 (YASR; Achenbach, 1997) as part of their 23 and 26 year assessments and the 126 item Adult Self-Report (ASR; Achenbach, 2003) as part of their age 32 assessment. Participants were asked to rate themselves, their feelings, and their behavior during the past six months in terms of a series of items. Responses to each item were made on a three point scale: 0 (*Not True*), 1 (*Somewhat or Sometimes True*), 2 (*Very True or Often True*). Extensive validity information for these scales are reported in the Achenbach manuals (Achenbach, 1997, 2003). Briefly, scores on the depression/anxiety subscale discriminate between clinically referred and non-referred samples matched for gender and age, and are highly and positively correlated with scores on the depression scale from the Symptom Checklist-90-Revised (Derogatis, 1977; 1994) and the depression scale from the Minnesota Multiphasic Personality Inventory-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989).
Linear mixed modeling requires that the same dependent measure be used across time. As listed in Table 1, fifteen identical items from the YASR and ASR depression/anxiety subscales loaded on the depression/anxiety subscale and were included in the depression/anxiety symptoms composite. Two items that loaded on the YASR depression/anxiety subscale and three items that loaded on the ASR depression/anxiety subscale were excluded because they did not cross-load. Reliabilities for the resulting 15-item scale were high, $\alpha_{23} = .90$, $\alpha_{26} = .89$, $\alpha_{32} = .90$. Sums of the items are used in the linear mixed models.

**Life satisfaction (age 32).** At the age 32 assessment, participants completed the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), which contains five items tapping global perceptions of life satisfaction (i.e., how well one’s life fits his/her personal standards). Responses are made on a 1 (*strongly disagree*) to 7 (*strongly agree*) Likert-type scale. Prior research shows this scale is a reliable, sensitive, and valid measure of one’s global satisfaction with life (Pavot & Diener, 2009). Items showed high reliability in the present sample, Cronbach’s alpha = .90. Responses were averaged for use in the present analyses.

**Covariates.** The following discriminant predictor and covariates were used in the analyses.

**Work competence (age 23).** At age 23, participants were interviewed and responded to paper-and-pencil questions about their work experiences. For example, participants were asked to provide their employment history and describe their plans for future education/employment. Measures and audiotaped interviews were later coded for the degree to which the participant showed *reflectivity* about his/her career plans, the degree to which s/he had engaged in *exploration* of potential career opportunities, and the degree to which his/her thinking about job or career goals showed *maturity* on separate 5-point unidimensional Likert-type scales. Inter-rater reliabilities for two raters on these scales ranged from acceptable to high, ICCs .64 - .84. Scores on these scales were composited to form a work competence measure. Past work linking this composite to middle childhood peer competence but not to adolescent friendship quality provides evidence for its convergent and divergent validity (Collins & van Dulmen, 2006b).
**Relationship status information (age 23).** At the age 23 assessment, participants reported: the length of their current romantic relationship in months; whether they were living with their current romantic partner, coded 0 (No, not living with partner) or 1 (Yes, living with partner); and whether they were married to their current partner, coded 0 (No, not married to partner) or 1 (Yes, married to partner).

**Romantic relationship stability between ages 23 and 32.** At the age 23 and 32 assessments, participants reported their partners’ first names. Name data were used to create a dichotomous variable indicating whether the participant was with the same partner between ages 23 and 32, coded 0 (participant was not with the same partner at ages 23 and 32) or 1 (participant was with the same partner at ages 23 and 32).

**Child status at age 23 and between ages 24-32.** A list maintained by MLSRA Project Staff of participants’ first born child’s birthdate was used to calculate two variables related to the participants’ child status over the course of the adult outcomes of interest. The first variable reflected whether the participant had a child at age 23 (i.e., the time of the early adult romantic relationship interview), and was coded 0 (participant did not have first child at/prior to age 23) or 1 (participant had first child at/prior to age 23). The second variable reflected whether the participant had his/her first child between ages 24 and 32, and was coded 0 (participant did not have child between ages 24-32) or 1 (participant had first child between ages 24-32).

**SES and financial health composite (age 32).** At the age 32 assessment, participants were asked a number of questions regarding their educational attainment, current employment, the educational attainment and current employment of a spouse/partner who contributed to household income (if applicable), the contributions of others to household income (e.g., a parent who lives with the participant and helps cover household expenses), and other miscellaneous income (e.g., Social Security Income, income from a rental property, drug money). Household SES was calculated using a composite of three components: educational attainment, annual household income, and occupational prestige. Educational attainment was coded on a 10-point Likert-type scale ranging from 0 (Did not graduate from high school) to 10 (Law or medical school
degree). If the participant had a spouse/partner who contributed to household income, the highest educational attainment score was selected for inclusion in the SES calculation. Annual income was the sum of participants’ annual earnings from their current job(s), partner/spouse annual income, income contributions from other household members, and miscellaneous income. Occupational prestige was coded using Total Socio-Economic Index (TSEI) scores (Hauser & Warren, 1997). TSEI scores reflect the typical education level, earnings, and prestige associated with various occupations for men and women. If the participant had multiple jobs or a spouse/partner who contributed to household income, the highest TSEI score was selected for inclusion in the SES calculation. Scores on each of the three components were z-scored (separately). The resulting z-scores were summed and divided by three, and thus represent the participant’s household’s SES relative to others in the sample. In instances where the participant (and his/her partner, if applicable) was unemployed and no TSEI score was available, only annual income and educational attainment were included in the composite, and this sum was divided by two.

Financial health scores were derived from the financial stress subscale of the Life Events Inventory (Egeland, Breitenbucher, & Rosenberg, 1980), which participants also completed during their age 32 assessment. Six items tapping financial stress within the past year were asked (e.g., self or partner unemployed, difficulty with welfare, taking on a new mortgage, decreases in income, incurring deep debt, and money shortages). Five trained raters coded the disruption associated with each event. Unendorsed items were coded as 0 (no disruption). Each endorsed item could receive a rating from 1 (Some disruption) to 3 (Highly disruptive). Inter-rater reliability was high, $\alpha = .97$. Disruption scores for each event were summed to create the financial stress subscale. In order to derive financial health scores, each participant’s total score on the financial stress subscale was subtracted from the sample maximum. Thus, higher scores indicate better financial health (i.e., absence of financial stressors).

To create the SES and financial health composite, participants’ SES and financial health scores were standardized individually then averaged.
Results

Validating Age 23 and 32 Romantic Quality Composites

Age 23 romantic relationships variables principal components analysis

In order to reduce the number of variables used in the analysis, a principal components analysis (Varimax rotation) was run on the interview-based codes from the age 23 Current Romantic Relationship Interview (Enjoyment, Commitment, Security, Conflict Resolution, and Overall Quality). A single component, labeled Age 23 Relationship Quality, emerged from this analysis (α = .93) and accounted for 78% of the variance. Component loadings, which reflect the correlations between the variables and the component, are shown in the first column of Table 2.

Age 23 relationship quality composite construct validity

The construct validity of the age 23 Relationship Quality composite variable was supported by several other self-report variables collected from the target participants during the age 23 assessment as well as observational data available for a subset (n = 40) of couples who had previously participated in a couples assessment approximately two to three years prior, when targets were ages 20-21.

Concurrent self-report measures (age 23). As shown in Table 3, there was an inverse relation between relationship quality and targets’ reports of whether they or their partners used physical aggression (throwing something, pushing, slapping, kicking, hitting, beating up, threatening with a gun or knife, using a gun or knife). Relationship quality was positively associated with targets’ reports of how much they love their partners, targets’ perceptions of how much their partners love them, targets’ relationship satisfaction, and targets’ perceptions of their partners’ relationship satisfaction, but not relationship length.

Antecedent observational measures (ages 20-21). Forty targets and their age 23 romantic partners had previously participated in an observational couples’ assessment when targets were ages 20-21, during which dyads completed a series of videotaped interaction tasks and/or completed self-report relationship measures. As shown in Table 4, age 23 romantic quality was positively related to observer-rated dyadic romantic relationship quality (an average of
Conflict Resolution, Overall Quality, Secure Base, and Positive Affect; and two scales that tapped the degree to which individuals could be themselves in the relationship and the relationship promoted individual development, $\alpha = .95$; for additional information, see Roisman, Madsen, Hennighausen, Sroufe, & Collins (2001), although the effect was not significant. Romantic quality was negatively related to observer-rated dyadic negative affect (the average of Negative Affect, Anger, Hostility, $\alpha = .88$; see Roisman et al., 2001), although the effect was again not significant. Self-report data collected from dyad members during the age 20-21 assessment showed a similar pattern. Age 23 romantic quality was positively related to males’ and females’ self-report relationship satisfaction and emotional tone. Unexpectedly, the composite was not related to self reports of commitment.

**Age 32 romantic relationships variables principal components analysis**

In order to reduce the number of variables used in the analysis, a principal components analysis (Varimax rotation) was run on the set of interview-based codes from the age 32 Current Romantic Relationship Interview that were identical to those from the age 23 assessment (Enjoyment, Commitment, Security, Conflict Resolution, and Overall Quality). A single component, labeled *Age 32 Relationship Quality*, emerged from this analysis ($\alpha = .94$) and accounted for 81% of the variance. Component loadings, which reflect the correlations between the variables and the component, are shown in the second column of Table 2.

**Age 32 relationship quality composite construct validity**

The construct validity of the age 32 relationship quality composite variable was supported by several other self-report variables collected from the target participants during the age 32 interview as well as observational data available for a subset of fifty-five dyads who had previously participated in a couple’s assessment approximately two to three years prior, when targets were ages 26-27.

**Concurrent self-report measures (age 32).** As shown in Table 5, there was an inverse relation between age 32 relationship quality and targets’ reports of whether they or their partners used physical aggression (throwing something, pushing, slapping, kicking, hitting, beating up,
threatening with a gun or knife, using a gun or knife). Age 32 relationship quality was positively associated with targets’ reports of how much they love their partners, perceptions of how much their partners love them, targets’ relationship satisfaction, and their perceptions of their partners’ relationship satisfaction, but not relationship length.

**Antecedent observational measures (ages 26-27).** Approximately fifty-five targets and their age 32 romantic partners had previously participated in an observational couples' assessment when targets were ages 26-27. This assessment included a series of videotaped interaction tasks and a battery of self-report relationship measures, including measures of satisfaction, commitment, and the emotional tone of the relationship. In some cases, only self-report forms were completed by the target and/or partner. As shown in Table 6, the age 32 Romantic Quality composite was positively related to observer-rated dyadic romantic relationship quality (an average of Conflict Resolution, Overall Quality, Secure Base, and Positive Affect; and two scales that tapped the degree to which individuals could be themselves in the relationship and the relationship promoted individual development, $\alpha = .94$; based on the composite used in Roisman et al., 2001). Age 32 romantic quality was negatively related to observer-rated dyadic negative affect (the average of Negative Affect, Anger, Hostility, $\alpha = .88$; see Roisman et al., 2001). Self-report data collected from dyad members at the age 26-27 assessment showed a similar pattern. Romantic quality was positively related to males’ and females’ self-report relationship satisfaction, commitment, and emotional tone.

**Focal Analyses**

The core set of analyses tested the hypothesis that early adult romantic relationship quality (age 23) would moderate the impact of early caregiving on life satisfaction (age 32), romantic relationship quality (age 32) and trajectories of depression/anxiety symptoms (ages 23, 26, and 32). Moderated multiple regression was used to test the hypotheses for age 32 life satisfaction and age 32 romantic relationship quality. The analytic plan and results for the moderated multiple regression analyses are presented first. Linear mixed modeling was used to
test the hypotheses related to trajectories of depression/anxiety symptoms. Accordingly, the analytic plan and results for this dependent variable are discussed separately.

**Age 32 Life Satisfaction and Romantic Relationship Quality Moderated Multiple Regression Analytic Plan**

Moderated multiple regression analyses were run in four steps to examine the unique and specific effects of the main and interaction effects. Step 1 contained only the main effect of early caregiving. Step 2 contained the main effects of early caregiving and age 23 romantic relationship quality. Step 3 considered the main effects of early caregiving and age 23 romantic quality, as well as their interaction. Early caregiving and age 23 romantic quality were centered on their means prior to creating the interaction term (Aiken & West, 1991). Step 4 included the same predictors as step 3 as well as eight control variables in order to test the robustness of the predicted interaction effect. The control variables included: gender, age 32 SES and financial health, whether the participant was with the same partner between ages 23 and 32, whether the participant lived with his/her romantic partner at age 23, whether the participant was married to his/her partner at age 23, age 23 romantic relationship length, whether the participant had a child by age 23, and whether the participant had his/her first child between ages 24 and 32). To summarize, the steps were as follows:

Step 1: \( E[Y] = \beta_0 + \beta_1 \text{Early Caregiving}_1 + \epsilon \)

Step 2: \( E[Y] = \beta_0 + \beta_1 \text{Early Caregiving} + \beta_2 \text{Age 23 Romantic Relationship Quality} \)

Step 3: \( E[Y] = \beta_0 + \beta_1 \text{Early Caregiving} + \beta_2 \text{Age 23 Romantic Relationship Quality} + \beta_3 (\text{Early Caregiving} \ast \text{Age 23 Romantic Relationship Quality}) + \epsilon \)

Step 4: \( E[Y] = \beta_0 + \beta_1 \text{Early Caregiving} + \beta_2 \text{Age 23 Romantic Relationship Quality} + \beta_3 (\text{Early Caregiving} \ast \text{Age 23 Romantic Relationship Quality}) + \beta_4 \text{Gender} + \beta_5 \text{Age 32 SES and Financial Health} + \beta_6 \text{With same partner ages 23-32} + \beta_7 \text{Living with partner (Age 23)} + \beta_8 \text{Married to partner (Age 23)} + \beta_9 \text{Relationship Length (Age 23)} + \beta_{10} \text{Have Child (Age 23)} + \beta_{11} \text{Have 1st child between 24-32} + \epsilon \)
Exploratory analyses examining gender as a potential moderator of the predicted interaction effects were also run using the following equation. The estimate for $\beta_7$ from the following equation was of interest in gender moderation analyses.

$$E[Y] = \beta_0 + \beta_1 \text{Early Caregiving} + \beta_2 \text{Age 23 Romantic Relationship Quality} + \beta_3 \text{Gender} + \beta_4 (\text{Early Caregiving} \ast \text{Age 23 Romantic Relationship Quality}) + \beta_5 (\text{Early Caregiving} \ast \text{Gender}) + \beta_6 (\text{Age 23 Romantic Relationship Quality} \ast \text{Gender}) + \beta_7 (\text{Early Caregiving} \ast \text{Age 23 Romantic Relationship Quality} \ast \text{Gender}) + \epsilon$$

Although the null results from the dropout control comparisons detailed above indicated that the subsample was representative in many ways of the full MLSRA sample, list-wise deletion makes the stringent assumption that data are missing completely at random (MCAR; Little & Rubin, 1987). To confirm that results were robust with respect to this important assumption, the same models were run after multiply imputing the missing data (Jelić, Phelps, & Lerner, 2009; Widaman, 2006). Parameter estimates were compared to pooled estimates from ten multiply imputed datasets. Imputation was done using the Multivariate Imputation by Chained Equations version 2.3 package (van Buuren & Groothuis-Oudshoorn, 2009) and run in R version 2.11.2 (R Development Core Team, 2010). The early caregiving $\times$ age 23 romantic quality interaction term was calculated prior to imputation (von Hippel, 2009).

In addition to directly testing the hypothesized moderating effect of age 23 romantic quality in Step 3, additional analyses were run to test the discriminant prediction that work competence at age 23 would not moderate the association between early caregiving and age 32 life satisfaction and romantic competence using the following equation:

$$E[Y] = \beta_0 + \beta_1 \text{Early Caregiving} + \beta_2 \text{Age 23 Work Competence} + \beta_3 (\text{Early Caregiving} \ast \text{Age 23 Work Competence}) + \epsilon$$

Bayesian weight of evidence (Burnham & Anderson, 2004; Raftery, 1995) for the predicted and discriminant models were used to compare relative fit of these non-nested models. This approach involves calculating the Bayesian information criterion (Schwarz, 1978), which is a model fit index derived from probability theory, for each of these models. Conclusions about the relative fit of the
predicted and discriminant models were made based on guidelines established by Raftery (1995), which has four gradations to compare models that range from Weak (neither model has a relative advantage over the other) to Very Strong (strong evidence for one model over another). Bayesian methods and model selection are widely used in sociology (Raftery, 1995) and are beginning to gain more visibility in psychology (Wagenmakers, Wetzels, Borsboom, & van der Maas, 2011). Bayesian methods offer several advantages over frequentist methods, including the ability to quantify model (un-)certainty and compare non-nested models. Comparisons of non-nested models must be done on the same subsample; therefore, the work competence moderation effect was tested on the sample subsample of target participants for whom there were romantic relationship data.

The results are reported as unstandardized regression coefficients. Although it would be ideal to show standardized values in order to compare the relative strength of model parameters, the procedure most statistical software packages use to calculate standardized regression coefficients do not account for the fact that an interaction effect is the product of two other predictors in the model. As a result the standardized estimates obtained for interaction effects are often incorrect (Preacher, 2010).

**Life satisfaction (age 32).** Descriptive statistics and zero-order correlations for the variables in the complete case (n = 83) life satisfaction analyses are summarized in Table 7. Moderated multiple regression results for the complete-case life satisfaction analyses are summarized in Table 8. There were no significant main effects for early caregiving in any of the steps. Age 23 romantic relationship quality positively predicted age 32 life satisfaction in Steps 2-4. There was no evidence for a significant interaction between early caregiving and age 23 romantic relationship quality in either of the relevant models (Steps 3 and 4). Of the control variables included in Step 4, there was a positive effect for age 32 SES and financial health. Gender was examined as a moderator of the hypothesized two-way interaction between early caregiving and age 23 romantic quality; however, the results of this analysis (not shown) were not significant.
The results from the multiply imputed data, shown in Table 9, were similar with respect to the main hypothesis (i.e., the hypothesized interaction term was non-significant). The discriminant analysis examining work competence as moderator of the relation between early caregiving and later romantic quality is shown in Table 10. The BIC for the work competence moderation model was 315.66 and the BIC for the parallel romantic quality moderation model (i.e., Step 3 in Table 8) was 306.28. According to Raftery’s (1995) criteria, this indicates that there is strong evidence to prefer romantic quality model.

Romantic relationship quality (age 32). Descriptive statistics and zero-order correlations for the variables in the complete-case (n = 69) romantic relationship quality analyses are summarized in Table 11. Moderated multiple regression results for the complete-case romantic relationship quality analyses are summarized in Table 12. There were no significant main effects for early caregiving in any of the models. Age 23 romantic relationship quality positively predicted age 32 romantic relationship quality in Steps 2 and 3; however, this main effect dropped to marginal significance out after entering the control variables in Step 4. There was no evidence for a significant interaction between early caregiving and age 23 romantic relationship quality in either of the relevant models (Steps 3 and 4). Of the control variables entered in Step 4, age 23 romantic relationship length emerged as a positive, marginally significant predictor. Gender was examined as a moderator of the hypothesized two-way interaction between early caregiving and age 23 romantic quality; however, the results of this analysis (not shown) were not significant.

The results from the multiply imputed data, shown in Table 13, were similar with respect to the main hypothesis (i.e., the hypothesized interaction term was non-significant). In contrast to the complete-case analysis, age 23 romantic quality was not a significant predictor of age 32 romantic quality in any of the four steps. However, early caregiving was a significant, positive predictor of age 32 romantic quality in Steps 1-3.

The discriminant analysis examining work competence as moderator of the relation between early caregiving and age 32 romantic quality is shown in Table 14. The BIC for the work
competence moderation model was 406.76 and the BIC for the parallel romantic quality moderation model (i.e., Step 3 in Table 12) was 409.20. According to Raftery’s (1995) criteria, this indicates that there is some positive evidence to prefer work competence model.

**Depression/Anxiety Symptoms Trajectories Analytic Plan.** A linear mixed modeling (LMM) growth curve framework was adopted to examine mean-level trajectories of depression/anxiety symptoms using self-report data collected at ages 23, 26, and 32 as a function of early caregiving and age 23 romantic relationship quality. Analyses were run using the lme4 package (Bates & Maechler, 2010) in R version 2.11.1 (R Development Core Team, 2010).

The equation (expressed in HLM form) for the primary analysis examining the effects of early caregiving and age 23 romantic relationship quality on the intercepts and slopes of depression/anxiety symptoms included one Level 1 and two Level 2 equations:

**Level 1:** Depression/Anxiety$_{ij}$ = $\beta_1 + \beta_2 t_{ij} + e_{ij}$

**Level 2:** $\beta_1_i = \beta_1 + \beta_3_{gender} + \beta_4_{Early Caregiving} + \beta_5_{Age 23 Romantic Quality} + \beta_6 (Early Caregiving_i * Age 23 Romantic Quality_i) + b_1_i$

$\beta_2_i = \beta_2 + \beta_7_{Early Caregiving} + \beta_8_{Age 23 Romantic Quality} + \beta_9 (Early Caregiving_i * Age 23 Romantic Quality_i) + b_2_i$

where $\beta_1$ is the intercept, which is the mean score on the depression/anxiety symptom scale at age 23, $\beta_2$ is the slope for the linear time term, $\beta_3$ is the effect of gender on the intercept, $\beta_4$ is the effect of early caregiving on the intercept, $\beta_5$ is the effect of age 23 romantic quality on the intercept, and $\beta_6$ is the interaction of early caregiving and age 23 romantic quality on the intercept, $\beta_7$ is the effect of early caregiving on the slope, $\beta_8$ is the effect of age 23 romantic quality on the slope, $\beta_9$ is the interaction of early caregiving and age 23 romantic quality on the slope, $b_{1i}$ is the random intercept allowing for individual variation around the mean ($\beta_1$), and $b_{2i}$ is the random slope allowing for individual variation around the mean ($\beta_2$). Gender was included as a main effect in view of past studies documenting gender differences in depression/anxiety symptoms in adulthood (Nolen-Hoeksema & Girgus, 1994).
An exploratory analysis examining gender as a potential moderator of the predicted intercept and slope interaction effects was also run using the following equation:

Level 1: Depression/Anxiety\(_{ij}\) = \(\beta_1 + \beta_2t_{ij} + e_{ij}\)

Level 2: \(\beta_{1i} = \beta_1 + \beta_3\text{Gender}_i + \beta_4\text{Early Caregiving}_i + \beta_5\text{Age 23 Romantic Quality}_i + \beta_6 (\text{Early Caregiving}_i \times \text{Age 23 Romantic Quality}_i) + \beta_8 (\text{Early Caregiving}_i \times \text{Gender}_i) + b_{1i}\)

Level 2: \(\beta_{2i} = \beta_6 + \beta_{10}\text{Gender}_i + \beta_{11}\text{Early Caregiving}_i + \beta_{12}\text{Age 23 Romantic Quality}_i + \beta_{13} (\text{Early Caregiving}_i \times \text{Age 23 Romantic Quality}_i) + \beta_{14} (\text{Early Caregiving}_i \times \text{Gender}_i) + \beta_{15} (\text{Age 23 Romantic Quality}_i \times \text{Gender}_i) + \beta_{16} (\text{Early Caregiving}_i \times \text{Age 23 Romantic Quality}_i \times \text{Gender}_i) + b_{2i}\)

A follow-up LMM was then run to test the robustness of the observed early caregiving and age 23 romantic quality interaction by including the covariates discussed previously. These additions were primarily made to the Level 2 equation related to the intercepts. The Level 2 equation related to the slopes was identical to equation presented earlier, with the exception that two variables that had the potential to change between ages 23 and 32 (i.e., whether the participant had his/her first child between ages 24 and 32 and whether the participant was with the same partner between ages 23 and 32) were added to Level 2 in order to examine them as moderators of slopes. Thus, the equations in HLM form were as follows:

Level 1: Depression/Anxiety\(_{ij}\) = \(\beta_1 + \beta_2t_{ij} + e_{ij}\)

Level 2: \(\beta_{1i} = \beta_1 + \beta_3\text{Gender}_i + \beta_4\text{Age 32 SES and Financial Health}_i + \beta_5\text{With same partner ages 23-32}_i + \beta_6\text{Living with partner (Age 23)}_i + \beta_7\text{Married to partner (age 23)}_i + \beta_8\text{Relationship Length (Age 23)}_i + \beta_9\text{Have child (age 23)}_i + \beta_{10}\text{Have 1st child between ages 24-32}_i + \beta_{11}\text{Early Caregiving}_i + \beta_{12}\text{Age 23 Romantic Quality}_i + \beta_{13} (\text{Early Caregiving}_i \times \text{Age 23 Romantic Quality}_i) + b_{1i}\)
Level 2: $\beta_{2i} = \beta_2 + \beta_{14} \text{Early Care}_i + \beta_{15} \text{Age 23 Romantic Quality}_i + \beta_{16} (\text{Early Caregiving}_i \times \text{Age 23 Romantic Quality}_i) + \beta_{17} \text{Have 1st child between ages 24-32}_i + \beta_{18} \text{With same partner ages 23-32}_i + b_{2i}$

Although the null results from the dropout control comparisons detailed above indicated that the subsample was, in many respects, representative of the full MLSRA sample, the basic model examining the interaction between early caregiving and age 23 romantic quality on depression/anxiety intercepts and slopes was run over 10 multiply imputed datasets and parameter estimates were pooled.

A parallel analysis was run to test the discriminant hypothesis that this moderating effect was unique to early adulthood romantic relationship experiences, as opposed to another salient developmental task, namely competence in work. Bayesian weight of evidence (Burnham & Anderson, 2004; Raftery, 1995) for the predicted and discriminant models were used to compare relative fit of these non-nested models. The same HLM equations were used, only for this discriminant analysis age 23 work competence was substituted for age 23 romantic quality. Thus, the HLM equations were:

Level 1: $\text{Depression/Anxiety}_{ij} = \beta_{1i} + \beta_{2i} t_{ij} + e_{ij}$

Level 2: $\beta_{1i} = \beta_1 + \beta_3 \text{gender}_i + \beta_4 \text{Early Caregiving}_i + \beta_5 \text{Age 23 Work Competence}_i + \beta_6 \text{Early Caregiving}_i \times \text{Age 23 Work Competence}_i + b_{1i}$

Level 2: $\beta_{2i} = \beta_2 + \beta_7 \text{Early Caregiving}_i + \beta_8 \text{Age 23 Work Competence}_i + \beta_9 \text{Early Caregiving}_i \times \text{Age 23 Work Competence}_i + b_{2i}$

In all analyses, continuous variables were centered on their means prior to creating interaction terms. The results are reported as unstandardized coefficients. Inferences for fixed effects were made using corresponding z-values because the $N^*$ (i.e., the total number of depression/anxiety symptom observations) was large, $N^* = 247$. T-values obtained for parameters were compared to the critical values under the standard normal distribution (i.e., for two-tailed tests $t \geq 1.64$ for $p < .10$, $t \geq 1.96$ for $p < .05$, $t \geq 2.58$ for $p < .01$).
**Depression/anxiety symptom results.** Descriptive statistics and zero-order correlations for the variables in the complete-case \( n = 83 \) depression/anxiety symptom analyses are summarized in Table 15. The results for the primary LMM are shown in Table 16. There were no main effects for early caregiving and age 23 romantic quality on the intercepts or slopes. Furthermore, the parameter for the linear time term was not significant, indicating flat trajectories of depression/anxiety symptoms over time. However, these non-significant main effects were modified by significant or marginally significant interactions. As predicted, early caregiving and age 23 romantic quality significantly interacted to predict intercepts (i.e., age 23 depression/anxiety symptoms) and marginally interacted \( (p = .06) \) to predict slopes of depression/anxiety over time.

Predicted growth curves for four configurations of early caregiving and age 23 romantic quality (at 1 SD above and below the mean on each variable) are plotted in Figure 3. A double fan-shaped interaction pattern emerged. As expected, the highest intercept was observed for those who had low early caregiving and low age 23 romantic relationship quality. The lowest intercept was observed for those who had low early caregiving and high age 23 romantic relationship quality. The intercepts for the other two groups were approximately half-way between these extreme groups. The symptoms of the concordant groups (i.e., low early caregiving/low age 23 romantic relationship quality or high early caregiving/high age 23 romantic relationship quality) decreased slightly over time. In contrast, the symptoms of the discordant groups (i.e., low early caregiving/high age 23 romantic relationship quality or high early caregiving/low age 23 romantic relationship quality) increased over time. By age 32, the depression/anxiety symptoms of the low early caregiving/low age 23 romantic relationship quality and high early caregiving/low age 23 romantic quality groups converged. Similarly, by age 32 the symptoms levels converged for the high early caregiving/high age 23 romantic quality and low early caregiving/high age 23 romantic quality groups.

As shown in Table 17, the significant intercept interaction effect was retained in the model after including the covariates. However, the slope interaction dropped below marginal
significance. This indicates that the initial intercept differences in depression/anxiety symptoms are maintained over time after accounting for the potential confounds. In addition, two of the covariates emerged as significant or marginally significant predictors. Being in a longer relationship at age 23 was positively related to depression/anxiety intercepts while having a child by age 23 was negatively related to depression/anxiety intercepts. Gender was examined as a moderator of the hypothesized two-way interaction between early caregiving and age 23 romantic quality; however, the results of this analysis (not shown) were not significant.

The results following multiple imputation are shown in Table 18. The interaction between early caregiving and age 23 romantic quality on intercepts and slopes did not replicate in the multiply imputed data. The only marginally significant effect to emerge was an inverse association between age 23 romantic quality and age 23 depression/anxiety intercepts.

The discriminant analysis examining work competence as moderator of the relation between early caregiving and depression/anxiety symptoms is shown in Table 19. None of the effects were significant. Furthermore, a comparison of the BICs for the model including age 23 romantic quality (BIC = 1475.98) versus work competence (BIC = 1512.45) indicated a very strong preference for the age 23 romantic quality model.

**Discussion and Conclusions**

The present study is one of the few attempts to examine how early caregiving and adult romantic relationship experiences shape three key psychosocial outcomes in adulthood (life satisfaction, romantic relationship quality, and depression/anxiety). The approach taken in this study marks a departure from related past studies in that it temporally separates the measure of relationship quality from the outcomes of interest and tests the hypothesis that peoples’ early caregiving histories may alter the effects of romantic relationship experiences on individuals’ psychosocial development. Although there was mixed support for the central hypothesis that the quality of one’s romantic relationship in early adulthood (measured at age 23) would moderate the effects of early caregiving quality (measured between ages 12-42 months) in predicting these outcomes, the results obtained underscore the need to identify the specific mechanisms through
which romantic relationships formed during the critical transition to adulthood either keep people on the same developmental path or move them onto a new path.

Life Satisfaction

Unexpectedly, age 23 romantic relationship quality did not moderate the effects of early caregiving quality to predict age 32 satisfaction with life or romantic relationship quality. Instead, results from the complete case analyses showed that there was a positive main effect for age 23 romantic quality. This effect held after controlling for a number of potential confounds and discriminant predictors. However, it should be noted that interpretation of the main effect for age 23 romantic quality is tentative in view of the fact that it was not robust to multiple imputation. Furthermore, although the predicted interaction effect was not statistically significant, model comparison favored the romantic quality model over the work competence model.

Although this main effect finding from the complete case analyses is not consistent with the original hypotheses, it does speak to an on-going debate in the literature (Madsen & Collins, in press; Roisman, Masten et al., 2004) on the significance of early adulthood romantic relationships for later psychosocial functioning. Drawing on developmental task theory (Havighurst, 1948/1972), Roisman et al. (2004) found that competence in early adulthood romantic relationships (measured using interviewer-based ratings of romantic intimacy and involvement, sexually responsible behavior, and self- and parent-reports of the target’s romantic relationship effectiveness) did not predict competence in later adulthood romantic relationships (measured using clinical ratings of romantic quality and involvement, self-reports of closeness and compatibility, interviewer ratings of romantic competence, and parent reports on parallel measures). The discrepancy between positive and significant finding in the present study and the null results from Roisman et al. (2004) study may be attributable to differences in how romantic functioning at this age was operationalized or differences in the extent to which romantic functioning at this age was an emerging versus salient developmental task in each sample. In the present study, the focus was on interpersonal processes such as one’s perceptions of being accepted wholly by a current relationship partner, while Roisman et al. took a more broadband
approach looking at general patterns of thoughts, feelings, and behaviors in romantic relationships, but not necessarily with respect to any one relationship. Thus, discrepancies may be attributable to the present study’s emphasis on interpersonal processes that occur in a specific relationship versus the emphasis on more global behavioral and emotional functioning (i.e., competence) in relationships as measured in Roisman et al. (2004).

Sample differences in socioeconomic status may also account for the observed discrepancy. Roisman et al. (2004) conceptualized competence in romantic relationships as an emerging developmental task for young adults; accordingly, functioning in this domain should have limited predictive significance over time. This view is consistent with Arnett’s (2000) idea that young adults in industrialized societies go through “emerging adulthood,” or a protracted period of exploration between ages 18-25 before assuming traditional adult roles. However, as Arnett and others note, the opportunity to engage in this type of prolonged exploration is in part the product of socioeconomic privilege (Arnett, 2000; Galambos & Martinez, 2007). When a person’s circumstances force him/her to enter adult roles quickly (i.e., without time for the intensive self-exploration characteristic of emerging adulthood), the salience of developmental tasks such as romantic relationships should come “online” earlier. The participants in the present study were originally recruited as poverty sample. Thus, establishing a high-quality romantic relationship in early adulthood may be a salient developmental task for this group because financial circumstances may have prompted them to assume traditional adult roles more quickly. As such, one would expect continuity between the quality of relationships early in adulthood and psychosocial outcomes in later adulthood. In contrast, the sample from Roisman et al. (2004) was recruited from an urban school district in a lower- to middle-class area, and participants may have had more resources to experience an emerging adulthood as conceptualized by Arnett (2000).

**Age 32 Romantic Relationship Quality**

Also unexpectedly, age 23 romantic relationship quality did not moderate the effects of early caregiving quality to predict age 32 romantic relationship quality. Instead, results from the complete case analyses showed that there was a positive main effect for age 23 romantic quality.
This main effect again speaks to the potential developmental significance of young adulthood romantic relationships for later romantic functioning (Roisman, Masten et al., 2004), particularly in the present at-risk sample, and suggests that there is continuity in functioning even over a 10-year period. This finding maps on particularly well with evidence from Overbeek et al. (2007) showing continuity in romantic functioning between early (age 25) and later (age 37) adulthood. However, it should be noted that the main effect of age 23 romantic quality was only marginally significant after controlling for potential confounds.

The results from the multiply imputed data were not entirely consistent with the complete case analyses. In particular, there was no main effect for age 23 romantic quality in the imputed data. Rather, early caregiving was a positive predictor of age 32 romantic quality, although this effect did not hold after entering control variables in the final step. Finally, model comparison showed some evidence favoring the work competence model over the romantic quality model. It is difficult to reconcile this cross-domain prediction in terms of existing theory and evidence. One potential explanation may be that work competence in early adulthood for those from at-risk backgrounds creates opportunities for partnering up with others with more favorable backgrounds.

**Depression/Anxiety Symptom Trajectories**

As hypothesized, young adult romantic relationship quality moderated the effect of early caregiving to predict depression/anxiety intercepts and slopes. As expected, the low early care/low romantic quality group had the highest number of depression/anxiety symptoms both initially and over time. This is consistent with previous literature showing that early experiences that put one at risk for psychosocial problems in adulthood may be exacerbated in the context of a low-quality romantic relationship (Hammen, 1992; Rönkä et al., 2002) and shows that this principle applies to depressive symptoms as well.

Unexpectedly, the low early care/high romantic quality group had the fewest symptoms both initially and over time. Although this was unexpected, it does mirror a conceptually similar finding reported in Treboux et al.’s (2004) study of how configurations of adults’ state-of-mind with
respect to their parents (i.e., AAI security) and to their current partner (i.e., CRI security) relate to romantic relationship perceptions. Individuals with insecure AAI/secure CRI configurations reported the highest number of positive relationship feelings. Their positive feelings outpaced the next highest group (i.e., those with secure AAI/secure CRI configurations) by approximately $\frac{1}{4}$ SD. The stark contrast, whether conscious or not, between one’s early caregiving and the quality of one’s early adult romantic relationship is one potential explanation for why individuals with this configuration report so few depression/anxiety symptoms. Romantic relationship processes such as the inclusion of other in self (Aron, Aron, & Paris, 1995), partner idealization (Murray, Holmes, & Griffin, 1996), and caregiving (Crowell, Treboux, & Waters, 2002) may challenge one’s previously held ideas of self and other, decoupling the link between poorer early caregiving and later depressive symptomatology (Bowlby, 1988; Hammen, 1992).

As hypothesized, the high early care/low romantic quality group’s intercept was in between the two extreme anchoring groups and was nearly identical to those in the high early care/high romantic quality group. This suggests that their positive early caregiving experiences buffered them from the potentially detrimental effects of a low-quality romantic relationship at age 23. This finding is consistent with the perspective that positive early caregiving experiences serve as an “inner resource” when one confronts future challenges (Bowlby, 1973, 1980; Mikulincer & Florian, 1998; Mikulincer et al., 2003; Sroufe et al., 1990). Positive early experiences were not “erased from the tape” (Kagan, 1980, p. 240), although the slight increase in depressive symptoms across time for this group indicates that they were not invulnerable to the effects of their low quality romantic relationship either. This longitudinal finding, in particular, underscores Bowlby’s (1973, 1980) assertion that early and later experiences are important for understanding psychosocial outcomes over time (Sroufe et al., 1990).

Although the depression/anxiety trajectories in the two discordant groups (i.e., low early care/high romantic quality and high early care/low romantic quality groups) can be individually interpreted in terms of existing theories (i.e., the violation of expectation hypothesis on the one hand, and the buffering hypothesis on the other), it is somewhat difficult to reconcile them under
the same theoretical framework. For example, according to the violation of expectation hypothesis advanced by Treboux et al. (2004), individuals with positive early experiences should have experienced greater psychological distress and higher depressive symptoms if their adult romantic experiences fail to meet their high standard for close interpersonal relationships. One potential explanation for the different trajectories shown by the discordant groups are the relative degree to which top-down versus bottom-up relationship processes are at play. It may be the case that individuals with histories of sensitive, supportive caregiving make more benevolent or growth-oriented attributions when their relationships are low in quality (e.g., “we sometimes have trouble resolving conflicts, but things will get better over time if we work on it”) (e.g., Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). These more favorable interpretations may buffer them from low quality relationship experiences at least in the short-term. Alternatively, these individuals may be more likely to receive emotional support from others in their social networks (e.g., family, friends), buffering against elevation in depressive symptoms typically associated with low quality romantic relationships. In contrast, individuals who experienced low early caregiving were especially may be especially responsive to “bottom-up” romantic relationship experiences that challenge previously held views of self and other. These hypotheses are tentative, however, and require further empirical attention in order to come to a more theoretically integrated understanding of how early experiences shape the consequences of later close relationship experiences.

Turning to the last configuration, those with high early care/high romantic quality had moderately high depression/anxiety intercepts, and their symptoms decreased slightly over time. Although it was unexpected that this group would have moderately high intercepts, by age 32 individuals in this group had some of the lowest depression/anxiety symptoms.

Considered as a set, the intercept and slope interaction effects underscore the importance of studying turning point phenomena as developmental processes that unfold over time. Pronounced initial differences in depression/anxiety symptoms as a function of one’s configuration of early caregiving and age 23 romantic relationship quality dissipated over time as
scores for the higher and lower age 23 romantic relationship quality groups converged. Visual inspection of Figure 1 suggests that if one were to look only at age 32 depression/anxiety scores as a function of early caregiving and age 23 romantic quality using simple moderated multiple regression, only a negative main effect for age 23 romantic quality would emerge. (This effect was confirmed statistically as well). This gives insight into the null results obtained in the age 32 life satisfaction and romantic quality analyses. Age 23 romantic quality emerged as a positive predictor for both of these dependent variables in the complete case analyses. Had data on these variables been collected multiple times between ages 23 and 32, one might have observed initial differences as a function of early caregiving and age 23 romantic quality that, over time, would fade into the simple main effect for age 23 romantic quality observed when one looks only at the age 32 data.

A number of additional analyses speak to the specificity and uniqueness of these findings. A model comparison indicated that the model of early adulthood romantic quality as the moderator of early caregiving to predict depression/anxiety trajectories provided a far better fit for the data compared to a competing model examining work competence as the moderator. This highlights the idea that the interpersonal processes embedded in romantic relationships are uniquely well suited to change the consequences of early caregiving for depression/anxiety outcomes (Erikson, 1963). In addition, the intercept interaction effect was robust to a number of covariates, including whether the participant was with the same romantic partner at age 32 and whether the participant had a child. Thus, it appears that the quality of early adulthood romantic relationships sets into motion intrapersonal change that is not lost even if that relationship ends. Moreover, findings cannot simply be attributed to the relationship-related life event of having a child. It should be noted that the slope interaction effect was not robust to the covariates. This suggests that when potential confounds are statistically controlled, the initial intercept differences are maintained over time. Unfortunately, neither the intercept nor slope interaction effects were not replicated in the multiply imputed data.

Limitations
This study also has several limitations. First is the issue of sample size and concerns about the generalizability of the findings. Attrition is problematic in any longitudinal study, and was likely compounded in the present sample because of its high-risk nature. Furthermore, the nature of the central research question concerning romantic relationships in early adulthood meant excluding from the analyses those participants who were not in romantic relationships in early adulthood. Although dropout-control comparisons indicated that the subsample was representative in many respects of the full sample, it may also be the case that those who were not in romantic relationships in early adulthood are different in other, unmeasured respects that would also have a bearing on the results. A related limitation is that only early adulthood romantic relationships at a specific age (age 23) were examined as moderators of early caregiving experiences. Many of the participants were involved with other partners across the study period (i.e., between the ages of 23 and 32), and the effects of those relationships were not measured.

Another limitation is the absence of data on participants’ partners in the romantic relationship measures used in the present study. Although the interview-based assessments of romantic quality show good evidence for construct validity, they do not (nor were they designed to) replace obtaining measurements on both partners. Knowing more about the target participants’ partners would likely lead to a much clearer picture of how dyad members in these important relationships both affect and are affected by one another.

Conclusions

The present study is one of few to take a developmental perspective on the romantic relationships as turning points for adult individual and romantic functioning and adds to the literature in three key ways. First, prospectively testing hypotheses about the individuals for whom and conditions under which romantic relationships are particularly likely to prompt changes in individual functioning represents an important advance over past turning point studies that have relied on retrospective reports (Rönkä et al., 2002). In particular, the results from the depression/anxiety symptom analyses suggest that the romantic relationship experiences are associated with different patterns of adaptation as function of early caregiving experiences,
adding a much needed developmental perspective to past work on the link between marital distress and depressive symptoms (Beach et al., 1990; Hammen, 1991, 1992). The finding that individuals whose low quality early caregiving experiences put them at risk for developing later depression/anxiety symptoms benefitted most from a high quality romantic relationship experience in adulthood is especially promising. The darker side to this story is that their counterparts whose early adulthood relationships were of low quality stayed on a relatively negative trajectory of depression/anxiety symptoms. Thus, the turning point effect of early adulthood romantic relationships on trajectories of depression/anxiety can have either a positive or negative direction (Bowlby, 1988; Rönkä et al., 2002; Rutter, 1996).

Second, using longitudinal data to temporally separate the hypothesized turning point effect from the psychosocial outcomes permitted a cleaner test of the hypothesized effects, as well as the unique opportunity to see how the effects of the purported turning point experience changed over time. Prior studies of romantic relationships as turning points have measured romantic relationship quality and adult adjustment outcomes at the same time (e.g., Quinton et al., 1993), making it difficult to draw firm conclusions about the temporal ordering of these effects, and likely inflating their association. Indeed, the results from this study indicate that the early caregiving x age 23 romantic relationship quality interaction effect was most pronounced in predicting age 23 depression/anxiety symptoms. Between the ages of 23-32, however, these initial differences faded into a main effect for age 23 romantic quality. The equifinality observed in the depression/anxiety data may explain why only main effects for age 23 romantic relationship quality emerged in the age 32 life satisfaction and romantic quality analyses. Such findings underscore to the importance of taking a longitudinal developmental perspective on turning points that accounts for how these experiences change trajectories over time. Returning to the definition of turning points presented at the beginning of the paper, these findings suggest that turning points are not static one-time events that result in immediate dramatic effects, but rather initiate processes that either aggravate or interrupt preexisting adaptations.
Beginning to identify the early interpersonal processes that foreshadow whether one will benefit from "good" romantic relationships or incur further harm from "bad" romantic relationships may be useful for clinicians. This work builds prior studies showing that depression/depressive symptoms and low quality romantic relationships are in part a consequence of poor early caregiving experiences (Conger et al., 2000; Overbeek et al., 2007; Simpson et al., 2007) to show that low quality romantic relationship experiences may amplify the association between poor early caregiving and adult depression/anxiety symptoms. Thus, individuals with this particular configuration are at a dual disadvantage that may be significant for tailoring therapeutic interventions that address developmentally-rooted vulnerabilities to depressive symptoms/depression that are compounded by one’s romantic relationship in adulthood.

In closing, the present research highlights the developmental construction of romantic relationships as turning points, and reaffirms the organizational-developmental principle that individual functioning is best understood as a product of one’s history in combination with current circumstances (Bowlby, 1973, 1980; Haydon et al., accepted pending revisions; Treboux et al., 2004). Early interpersonal experiences may initiate a developmental pathway, but later close relationship experiences also shape its final form.
References


## Appendix 1: Tables

### Table 1

**YASR and ASR items included in the depression/anxiety symptom composite and excluded items**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>YASR and ASR Items Included in the Depression/Anxiety Composite</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Lonely</td>
</tr>
<tr>
<td>13</td>
<td>Confused</td>
</tr>
<tr>
<td>14</td>
<td>Cries a lot</td>
</tr>
<tr>
<td>22</td>
<td>Worries about future</td>
</tr>
<tr>
<td>31</td>
<td>Fears doing bad</td>
</tr>
<tr>
<td>33</td>
<td>Feels unloved</td>
</tr>
<tr>
<td>35</td>
<td>Feels worthless</td>
</tr>
<tr>
<td>45</td>
<td>Nervous, tense</td>
</tr>
<tr>
<td>47</td>
<td>Lacks self-confidence</td>
</tr>
<tr>
<td>50</td>
<td>Fearful, anxious</td>
</tr>
<tr>
<td>52</td>
<td>Feels too guilty</td>
</tr>
<tr>
<td>71</td>
<td>Self-conscious</td>
</tr>
<tr>
<td>103</td>
<td>Unhappy, sad, depressed</td>
</tr>
<tr>
<td>112</td>
<td>Worries</td>
</tr>
<tr>
<td>YASR 116/</td>
<td></td>
</tr>
<tr>
<td>ASR 113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worries about relations with opposite sex</td>
</tr>
</tbody>
</table>

**YASR Items Excluded from the Depression/Anxiety Composite**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>Needs to be perfect</td>
</tr>
<tr>
<td>113</td>
<td>Concerned about looks</td>
</tr>
</tbody>
</table>

**ASR Items Excluded from the Depression/Anxiety Composite**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Others out to get him/her</td>
</tr>
<tr>
<td>91</td>
<td>Suicidal thoughts</td>
</tr>
<tr>
<td>107</td>
<td>Can’t succeed</td>
</tr>
</tbody>
</table>
Table 2

Component loadings for ages 23 and 32 romantic relationship interview variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age 23 Component Loading</th>
<th>Age 32 Component Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyment</td>
<td>.91</td>
<td>.93</td>
</tr>
<tr>
<td>Commitment</td>
<td>.79</td>
<td>.84</td>
</tr>
<tr>
<td>Security</td>
<td>.93</td>
<td>.91</td>
</tr>
<tr>
<td>Conflict Resolution</td>
<td>.80</td>
<td>.84</td>
</tr>
<tr>
<td>Overall Quality</td>
<td>.97</td>
<td>.97</td>
</tr>
</tbody>
</table>
Table 3

Zero-order correlations between age 23 romantic quality composite and concurrent target-reported relationship measures

<table>
<thead>
<tr>
<th>Age 23 Target-Reported Relationship Measures</th>
<th>Age 23 Romantic Quality Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical aggression: Target</td>
<td>-0.38**</td>
</tr>
<tr>
<td>Physical aggression: Partner</td>
<td>-0.54**</td>
</tr>
<tr>
<td>Love for partner</td>
<td>0.28**</td>
</tr>
<tr>
<td>Perceived love by partner</td>
<td>0.31**</td>
</tr>
<tr>
<td>Relationship satisfaction: Target</td>
<td>0.75**</td>
</tr>
<tr>
<td>Relationship satisfaction: Partner</td>
<td>0.74**</td>
</tr>
<tr>
<td>Relationship length (months)</td>
<td>-0.13</td>
</tr>
</tbody>
</table>

†p < .10. *p < .05. **p < .01.

Table 4

Zero-order correlations between age 20-21 observational and self-report relationship variables and age 23 romantic quality composite

<table>
<thead>
<tr>
<th>Age 20-21 Romantic Relationship Variables</th>
<th>Age 23 Romantic Quality Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Relationship Quality</td>
<td>0.26 (n = 34)</td>
</tr>
<tr>
<td>Observed Relationship Negative Affect</td>
<td>-0.20 (n = 34)</td>
</tr>
<tr>
<td>Relationship Satisfaction: Females</td>
<td>0.35* (n = 39)</td>
</tr>
<tr>
<td>Relationship Satisfaction: Males</td>
<td>0.39* (n = 38)</td>
</tr>
<tr>
<td>Relationship Commitment: Females</td>
<td>-0.10 (n = 39)</td>
</tr>
<tr>
<td>Relationship Commitment: Males</td>
<td>0.01 (n = 38)</td>
</tr>
<tr>
<td>Emotional Tone: Females</td>
<td>0.28† (n = 39)</td>
</tr>
<tr>
<td>Emotional Tone: Males</td>
<td>0.40* (n = 38)</td>
</tr>
</tbody>
</table>

Note. Sample sizes vary because not all dyads completed all parts of the age 20-21 romantic relationship assessment. In some cases only targets filled out self-report measures, while in other cases targets and their partners filled out self-report measures but did not complete the observational assessment.

†p < .10. *p < .05. **p < .01.
### Table 5

Zero-order correlations between age 32 romantic quality composite and concurrent target-reported relationship measures

<table>
<thead>
<tr>
<th>Age 32 Target-Reported Relationship Measures</th>
<th>Age 32 Romantic Quality Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical aggression: Target</td>
<td>-0.47**</td>
</tr>
<tr>
<td>Physical aggression: Partner</td>
<td>-0.56**</td>
</tr>
<tr>
<td>Love for partner</td>
<td>0.51**</td>
</tr>
<tr>
<td>Perceived love by partner</td>
<td>0.58**</td>
</tr>
<tr>
<td>Relationship Satisfaction: Target</td>
<td>0.62**</td>
</tr>
<tr>
<td>Relationship Satisfaction: Partner</td>
<td>0.60**</td>
</tr>
<tr>
<td>Relationship length (years)</td>
<td>0.08</td>
</tr>
</tbody>
</table>

†p < .10, *p < .05, **p < .01.

### Table 6

Zero-order correlations between age 26-27 observational and self-report relationship variables and age 32 romantic quality composite

<table>
<thead>
<tr>
<th>Age 26-27 Romantic Relationship Variables</th>
<th>Age 32 Romantic Quality Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed Relationship Quality</td>
<td>0.35* (n = 47)</td>
</tr>
<tr>
<td>Observed Relationship Negative Affect</td>
<td>-0.35* (n = 47)</td>
</tr>
<tr>
<td>Relationship Satisfaction: Females</td>
<td>0.43** (n = 54)</td>
</tr>
<tr>
<td>Relationship Satisfaction: Males</td>
<td>0.50** (n = 51)</td>
</tr>
<tr>
<td>Relationship Commitment: Females</td>
<td>0.28† (n = 51)</td>
</tr>
<tr>
<td>Relationship Commitment: Males</td>
<td>0.41** (n = 47)</td>
</tr>
<tr>
<td>Emotional Tone: Females</td>
<td>0.48** (n = 51)</td>
</tr>
<tr>
<td>Emotional Tone: Males</td>
<td>0.43** (n = 48)</td>
</tr>
</tbody>
</table>

*Note.* Sample sizes vary because not all dyads completed all parts of the age 26-27 romantic relationship assessment. In some cases only targets filled out self-report measures, while in other cases targets and their partners filled out self-report measures but did not complete the observational assessment.

†p < .10, *p < .05, **p < .01.
Table 7

Descriptive statistics and zero-order correlations for variables in life satisfaction analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>0.55</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Early Caregiving</td>
<td>0.09</td>
<td>0.64</td>
<td>0.13</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Age 23 Romantic Quality</td>
<td>0.07</td>
<td>0.87</td>
<td>0.00</td>
<td>0.19†</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Living with partner (Age 23)</td>
<td>0.66</td>
<td>—</td>
<td>0.28**</td>
<td>-0.15</td>
<td>-0.02</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Married to partner (age 23)</td>
<td>0.22</td>
<td>—</td>
<td>0.12</td>
<td>-0.05</td>
<td>0.00</td>
<td>0.38**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Relationship length (Age 23)</td>
<td>37.06</td>
<td>24.29</td>
<td>0.11</td>
<td>-0.05</td>
<td>-0.04</td>
<td>0.39**</td>
<td>0.30**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Have child (Age 23)</td>
<td>0.45</td>
<td>—</td>
<td>0.02</td>
<td>-0.29**</td>
<td>-0.11</td>
<td>0.18</td>
<td>0.23*</td>
<td>0.31**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Age 23 Work Competence</td>
<td>3.06</td>
<td>1.35</td>
<td>-0.07</td>
<td>0.24*</td>
<td>0.25*</td>
<td>-0.17</td>
<td>0.02</td>
<td>-0.10</td>
<td>-0.22*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8. Have 1st child between 24-32</td>
<td>0.30</td>
<td>—</td>
<td>0.06</td>
<td>0.01</td>
<td>-0.15</td>
<td>0.02</td>
<td>0.04</td>
<td>-0.06</td>
<td>-0.58**</td>
<td>0.08</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9. With same partner ages 23-32</td>
<td>0.40</td>
<td>—</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.35**</td>
<td>0.11</td>
<td>0.17</td>
<td>0.29**</td>
<td>0.01</td>
<td>0.09</td>
<td>0.22*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10. Age 32 Life Satisfaction</td>
<td>5.07</td>
<td>1.46</td>
<td>-0.02</td>
<td>0.06</td>
<td>0.38**</td>
<td>-0.05</td>
<td>0.07</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.20†</td>
<td>0.06</td>
<td>0.29**</td>
<td>—</td>
</tr>
<tr>
<td>11. Age 32 SES and Financial Health</td>
<td>0.05</td>
<td>0.76</td>
<td>-0.02</td>
<td>0.21†</td>
<td>0.19†</td>
<td>-0.07</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.28*</td>
<td>0.44**</td>
<td>0.17</td>
<td>0.23*</td>
<td>0.44**</td>
</tr>
</tbody>
</table>

Note. SDs were not calculated for dichotomous variables and are marked in that column with dashes.
†p < .10, *p ≤ .05, **p < .01
Table 8

Hierarchical multiple regression predicting life satisfaction (age 32) as a function of early caregiving and age 23 romantic quality

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(df)</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>5.06**</td>
<td>0.16</td>
<td>31.15 (81)</td>
<td>&lt;.01</td>
<td>[4.74, 5.38]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.13</td>
<td>0.25</td>
<td>0.51 (81)</td>
<td>0.609</td>
<td>[-0.37, 0.63]</td>
</tr>
</tbody>
</table>

Model $R^2 = 0.01$

**Step 2**

| Step 2                      | Intercept                 | 5.03** | 0.15 | 33.15 (80) | <0.01 | [4.73, 5.33] |
| Early Caregiving            | -0.04                     | 0.24   | -0.15 (80) | 0.88  | [-0.51, 0.44] |
| Age 23 Romantic Quality     | 0.64**                     | 0.18   | 3.61 (80)  | <0.01 | [0.29, 0.99]  |

Model $R^2 = 0.12$

**Step 3**

| Step 3                      | Intercept                 | 5.06** | 0.15 | 32.87 (79) | <0.01 | [4.73, 5.37] |
| Early Caregiving            | -0.03                     | 0.24   | -0.12 (79) | 0.90  | [-0.51, 0.45] |
| Age 23 Romantic Quality     | 0.65**                     | 0.18   | 3.61 (79)  | <0.01 | [0.29, 1.01]  |
| Early Caregiving X Age 23 Romantic Quality | 0.10  | 0.29 | 0.35 (79)  | 0.73  | [-0.48, 0.68] |

Model $R^2 = 0.11$

**Step 4**

| Step 4                      | Intercept                 | 4.73** | 0.37 | 12.77 (71) | <0.01 | [3.99, 5.47] |
| Gender                     | -0.03                     | 0.30   | -0.09 (71) | 0.93  | [-0.63, 0.58] |
| Age 32 SES and Financial Health | 0.76**                 | 0.20   | 3.75 (71)  | 0.00  | [0.36, 1.17] |
| With same partner ages 23-32 | 0.13                     | 0.37   | 0.36 (71)  | 0.72  | [-0.60, 0.86] |
| Living with partner (Age 23) | -0.29                    | 0.36   | -0.81 (71) | 0.42  | [-1.01, 0.43] |
| Married to partner (Age 23) | 0.27                      | 0.39   | 0.68 (71)  | 0.50  | [-0.51, 1.05] |
| Relationship length (Age 23) | 0.00                     | 0.01   | -0.12 (71) | 0.90  | [-0.02, 0.01] |
| Have child (Age 23)        | 0.61                      | 0.44   | 1.41 (71)  | 0.16  | [-0.26, 1.48] |
| Have 1st child between 24-32 | 0.48                      | 0.45   | 1.06 (71)  | 0.29  | [-0.42, 1.38] |
| Early Caregiving           | -0.09                     | 0.25   | -0.36 (71) | 0.72  | [-0.58, 0.40] |
| Romantic Quality (Age 23)  | 0.58**                    | 0.20   | 2.93 (71)  | <0.01 | [0.19, 0.98]  |
| Early Caregiving X Age 23 Romantic Quality | 0.15 | 0.29 | 0.51 (71)  | 0.61  | [-0.44, 0.73] |

Model $R^2 = 0.22$

*p < .05. **p < .01
Table 9

Hierarchical multiple regression predicting life satisfaction (age 32) as a function of early caregiving and age 23 romantic quality (imputed data)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t(df)</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intercept</td>
<td>4.79**</td>
<td>0.15</td>
<td>31.06</td>
<td>&lt;0.01</td>
<td>[4.47, 5.12]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.27</td>
<td>0.20</td>
<td>1.33</td>
<td>0.19</td>
<td>[-0.14, 0.68]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.01$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Intercept</td>
<td>4.77**</td>
<td>0.14</td>
<td>33.36</td>
<td>&lt;0.01</td>
<td>[4.48, 5.07]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.23</td>
<td>0.18</td>
<td>1.24</td>
<td>0.22</td>
<td>[-0.14, 0.59]</td>
</tr>
<tr>
<td></td>
<td>Age 23 Romantic Quality</td>
<td>0.05*</td>
<td>0.02</td>
<td>2.13</td>
<td>0.05</td>
<td>[0.00, 0.10]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.06$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Intercept</td>
<td>4.84**</td>
<td>0.15</td>
<td>32.15</td>
<td>&lt;0.01</td>
<td>[4.53, 5.16]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.19</td>
<td>0.18</td>
<td>1.04</td>
<td>0.30</td>
<td>[-0.17, 0.55]</td>
</tr>
<tr>
<td></td>
<td>Age 23 Romantic Quality</td>
<td>0.05†</td>
<td>0.03</td>
<td>2.06</td>
<td>0.06</td>
<td>[0.00, 0.11]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving X Age 23</td>
<td>-0.05</td>
<td>0.04</td>
<td>-1.12</td>
<td>0.28</td>
<td>[-0.13, 0.04]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.08$</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>4</td>
<td>Intercept</td>
<td>4.60**</td>
<td>0.27</td>
<td>16.84</td>
<td>&lt;0.01</td>
<td>[4.04, 5.16]</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>-0.04</td>
<td>0.30</td>
<td>-0.13</td>
<td>0.90</td>
<td>[-0.68, 0.60]</td>
</tr>
<tr>
<td></td>
<td>Age 32 SES and Financial Health</td>
<td>0.50**</td>
<td>0.16</td>
<td>3.15</td>
<td>&lt;0.01</td>
<td>[0.17, 0.83]</td>
</tr>
<tr>
<td></td>
<td>With same partner ages 23-32</td>
<td>0.18</td>
<td>0.34</td>
<td>0.51</td>
<td>0.61</td>
<td>[-0.54, 0.89]</td>
</tr>
<tr>
<td></td>
<td>Living with partner (Age 23)</td>
<td>0.18</td>
<td>0.36</td>
<td>0.49</td>
<td>0.63</td>
<td>[-0.59, 0.94]</td>
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<tr>
<td></td>
<td>Married to partner (Age 23)</td>
<td>-0.04</td>
<td>0.30</td>
<td>-0.14</td>
<td>0.89</td>
<td>[-0.66, 0.57]</td>
</tr>
<tr>
<td></td>
<td>Relationship length (Age 23)</td>
<td>0.00</td>
<td>0.01</td>
<td>-0.63</td>
<td>0.54</td>
<td>[-0.02, 0.01]</td>
</tr>
<tr>
<td></td>
<td>Have child (Age 23)</td>
<td>0.46†</td>
<td>0.25</td>
<td>1.83</td>
<td>0.07</td>
<td>[0.04, 0.97]</td>
</tr>
<tr>
<td></td>
<td>Have 1st child between 24-32</td>
<td>0.41</td>
<td>0.30</td>
<td>1.36</td>
<td>0.18</td>
<td>[-0.19, 1.01]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.08</td>
<td>0.18</td>
<td>0.47</td>
<td>0.64</td>
<td>[-0.27, 0.43]</td>
</tr>
<tr>
<td></td>
<td>Romantic Quality (Age 23)</td>
<td>0.05†</td>
<td>0.03</td>
<td>1.79</td>
<td>0.09</td>
<td>[-0.01, 0.12]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving X Age 23</td>
<td>-0.03</td>
<td>0.04</td>
<td>-0.91</td>
<td>0.37</td>
<td>[-0.10, 0.04]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.21$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† p <.10.  *p ≤ .05.  **p <.01.
Table 10

*Multiple regression predicting life satisfaction as a function of early caregiving and age 23 work competence*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$t(\text{df})$</th>
<th>$p$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.06**</td>
<td>0.16</td>
<td>30.95 (79)</td>
<td>&lt;0.01</td>
<td>[4.74, 5.39]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>0.03</td>
<td>0.26</td>
<td>0.11 (79)</td>
<td>0.92</td>
<td>[-0.49, 0.54]</td>
</tr>
<tr>
<td>Age 23 Work Competence</td>
<td>0.21†</td>
<td>0.12</td>
<td>1.74 (79)</td>
<td>0.09</td>
<td>[-0.03, 0.46]</td>
</tr>
<tr>
<td>Early Caregiving \times Age 23 Work Competence</td>
<td>0.04</td>
<td>0.17</td>
<td>0.24 (79)</td>
<td>0.81</td>
<td>[-0.30, 0.38]</td>
</tr>
</tbody>
</table>

† $p < .10$. **$p < .01$. Model $R^2 = 0.00$
Table 11

*Descriptive statistics and zero-order correlations for variables in romantic quality analyses*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>0.52</td>
<td>—</td>
<td>—</td>
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<td>—</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
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</tr>
<tr>
<td>2. Early Caregiving</td>
<td>0.05</td>
<td>0.64</td>
<td>0.07</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Age 23 Romantic Quality</td>
<td>0.06</td>
<td>0.83</td>
<td>0.02</td>
<td>0.14</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Living with partner (Age 23)</td>
<td>0.64</td>
<td>—</td>
<td>0.30*</td>
<td>-0.18</td>
<td>0.05</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
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<tr>
<td>5. Married to partner (age 23)</td>
<td>0.22</td>
<td>—</td>
<td>0.15</td>
<td>-0.07</td>
<td>0.05</td>
<td>0.40**</td>
<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Relationship length (Age 23)</td>
<td>38.28</td>
<td>24.45</td>
<td>0.18</td>
<td>-0.04</td>
<td>0.02</td>
<td>0.43**</td>
<td>0.34**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7. Have child (Age 23)</td>
<td>0.45</td>
<td>—</td>
<td>0.05</td>
<td>-0.26*</td>
<td>-0.04</td>
<td>0.14</td>
<td>0.16</td>
<td>0.29*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8. Age 23 Work Competence</td>
<td>3.10</td>
<td>1.37</td>
<td>0.01</td>
<td>0.28*</td>
<td>0.30*</td>
<td>-0.22†</td>
<td>-0.03</td>
<td>-0.18</td>
<td>-0.28*</td>
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<td>—</td>
<td>—</td>
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<tr>
<td>9. Have 1st child between 24-32</td>
<td>0.33</td>
<td>—</td>
<td>0.12</td>
<td>0.08</td>
<td>-0.13</td>
<td>0.09</td>
<td>0.08</td>
<td>-0.08</td>
<td>-0.64**</td>
<td>0.06</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10. With same partner ages 23-32</td>
<td>0.48</td>
<td>—</td>
<td>0.05</td>
<td>0.03</td>
<td>0.43**</td>
<td>0.18</td>
<td>0.20</td>
<td>0.29*</td>
<td>0.01</td>
<td>0.07</td>
<td>0.19</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>11. Age 32 Romantic Quality</td>
<td>0.25</td>
<td>4.37</td>
<td>0.08</td>
<td>0.14</td>
<td>0.36**</td>
<td>-0.02</td>
<td>0.00</td>
<td>0.21†</td>
<td>-0.14</td>
<td>0.38**</td>
<td>0.06</td>
<td>0.31**</td>
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</tr>
<tr>
<td>12. Age 32 SES and Financial Health</td>
<td>0.16</td>
<td>0.75</td>
<td>0.04</td>
<td>0.23†</td>
<td>0.13</td>
<td>0.01</td>
<td>-0.07</td>
<td>-0.05</td>
<td>-0.27*</td>
<td>0.48**</td>
<td>0.16</td>
<td>0.14</td>
<td>0.23†</td>
</tr>
</tbody>
</table>

*Note. SDs were not calculated for dichotomous variables and are marked in that column with dashes.† p < .10. *p ≤ .05. **p < .01*
Table 12

Hierarchical multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 romantic quality

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(df)</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intercept</td>
<td>0.20</td>
<td>0.53</td>
<td>0.38</td>
<td>0.71</td>
<td>[-0.85, 1.25]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.97</td>
<td>0.82</td>
<td>1.18</td>
<td>0.24</td>
<td>[-0.67, 2.61]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.00$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Intercept</td>
<td>0.10</td>
<td>0.50</td>
<td>0.21</td>
<td>0.83</td>
<td>[-0.89, 1.10]</td>
</tr>
<tr>
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<td>Early Caregiving</td>
<td>0.64</td>
<td>0.78</td>
<td>0.81</td>
<td>0.42</td>
<td>[-0.93, 2.20]</td>
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<tr>
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<td>Age 23 Romantic Quality</td>
<td>1.82**</td>
<td>0.60</td>
<td>3.01</td>
<td>&lt;0.01</td>
<td>[0.61, 3.03]</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>Intercept</td>
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<td>0.51</td>
<td>0.52</td>
<td>0.61</td>
<td>[-0.75, 1.27]</td>
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<tr>
<td></td>
<td>Early Caregiving</td>
<td>0.63</td>
<td>0.79</td>
<td>0.79</td>
<td>0.43</td>
<td>[-0.96, 2.21]</td>
</tr>
<tr>
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<td>Age 23 Romantic Quality</td>
<td>1.80*</td>
<td>0.62</td>
<td>2.89</td>
<td>0.01</td>
<td>[0.56, 3.05]</td>
</tr>
<tr>
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<td>Early Caregiving $\times$ Age 23 Romantic Quality</td>
<td>-0.13</td>
<td>1.04</td>
<td>-0.13</td>
<td>0.90</td>
<td>[-2.22, 1.95]</td>
</tr>
<tr>
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<td>Model $R^2 = 0.10$</td>
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<td></td>
</tr>
<tr>
<td>Step 4</td>
<td>Intercept</td>
<td>-1.04</td>
<td>1.29</td>
<td>-0.80</td>
<td>0.42</td>
<td>[-3.63, 1.55]</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>0.68</td>
<td>1.07</td>
<td>0.64</td>
<td>0.53</td>
<td>[-1.46, 2.81]</td>
</tr>
<tr>
<td></td>
<td>Age 32 SES and Financial Health</td>
<td>0.87</td>
<td>0.71</td>
<td>1.23</td>
<td>0.22</td>
<td>[-0.55, 2.29]</td>
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<td></td>
<td>With same partner ages 23-32</td>
<td>1.14</td>
<td>1.28</td>
<td>0.89</td>
<td>0.38</td>
<td>[-1.43, 3.71]</td>
</tr>
<tr>
<td></td>
<td>Living with partner (Age 23)</td>
<td>-1.41</td>
<td>1.27</td>
<td>-1.11</td>
<td>0.27</td>
<td>[-3.97, 1.14]</td>
</tr>
<tr>
<td></td>
<td>Married to partner (Age 23)</td>
<td>-0.52</td>
<td>1.36</td>
<td>-0.38</td>
<td>0.70</td>
<td>[-3.25, 2.21]</td>
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<tr>
<td></td>
<td>Relationship length (Age 23)</td>
<td>0.05*</td>
<td>0.03</td>
<td>1.96</td>
<td>0.05</td>
<td>[0.00, 0.10]</td>
</tr>
<tr>
<td></td>
<td>Have child (Age 23)</td>
<td>-1.30</td>
<td>1.51</td>
<td>-0.86</td>
<td>0.39</td>
<td>[-4.33, 1.72]</td>
</tr>
<tr>
<td></td>
<td>Have 1st child between 24-32</td>
<td>-0.10</td>
<td>1.59</td>
<td>-0.07</td>
<td>0.95</td>
<td>[-3.28, 3.07]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>-0.01</td>
<td>0.85</td>
<td>-0.01</td>
<td>0.99</td>
<td>[-1.71, 1.69]</td>
</tr>
<tr>
<td></td>
<td>Romantic Quality (Age 23)</td>
<td>1.43†</td>
<td>0.75</td>
<td>1.91</td>
<td>0.06</td>
<td>[-0.07, 2.94]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving $\times$ Age 23 Romantic Quality</td>
<td>-0.20</td>
<td>1.11</td>
<td>-0.18</td>
<td>0.86</td>
<td>[-2.43, 2.03]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.21$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05. **p < .01
Table 13

Hierarchical multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 romantic quality (imputed data)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(df)</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Intercept</td>
<td>-1.15</td>
<td>0.81</td>
<td>-1.42 (11)</td>
<td>0.18</td>
<td>[-2.94, 0.64]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>1.90*</td>
<td>0.78</td>
<td>2.45 (36)</td>
<td>0.02</td>
<td>[0.33, 3.48]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.04$</td>
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</tr>
<tr>
<td>Step 2</td>
<td>Intercept</td>
<td>-1.20</td>
<td>0.81</td>
<td>-1.48 (11)</td>
<td>0.17</td>
<td>[-2.98, 0.58]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>1.82*</td>
<td>0.77</td>
<td>2.35 (36)</td>
<td>0.02</td>
<td>[0.33, 3.38]</td>
</tr>
<tr>
<td></td>
<td>Age 23 Romantic Quality</td>
<td>0.12</td>
<td>0.09</td>
<td>1.41 (21)</td>
<td>0.17</td>
<td>[-0.06, 0.30]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.06$</td>
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<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>Intercept</td>
<td>-1.15</td>
<td>0.80</td>
<td>-1.43 (12)</td>
<td>0.18</td>
<td>[-2.90, 0.60]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving</td>
<td>1.74*</td>
<td>0.79</td>
<td>2.31 (33)</td>
<td>0.04</td>
<td>[0.13, 3.35]</td>
</tr>
<tr>
<td></td>
<td>Age 23 Romantic Quality</td>
<td>0.13</td>
<td>0.09</td>
<td>1.49 (20)</td>
<td>0.15</td>
<td>[-0.05, 0.31]</td>
</tr>
<tr>
<td></td>
<td>Early Caregiving $\times$ Age 23 Romantic Quality</td>
<td>-0.01</td>
<td>0.24</td>
<td>-0.06 (9)</td>
<td>0.95</td>
<td>[-0.55, 0.52]</td>
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<tr>
<td></td>
<td>Model $R^2 = 0.08$</td>
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</tr>
<tr>
<td>Step 4</td>
<td>Intercept</td>
<td>-2.30</td>
<td>1.47</td>
<td>-1.56 (12)</td>
<td>0.14</td>
<td>[-5.50, 0.91]</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>0.23</td>
<td>1.13</td>
<td>0.21 (18)</td>
<td>0.84</td>
<td>[-2.14, 2.61]</td>
</tr>
<tr>
<td></td>
<td>Age 32 SES and Financial Health</td>
<td>1.20</td>
<td>0.91</td>
<td>1.31 (11)</td>
<td>0.22</td>
<td>[-0.81, 3.21]</td>
</tr>
<tr>
<td></td>
<td>With same partner ages 23-32</td>
<td>0.07</td>
<td>1.62</td>
<td>0.04 (12)</td>
<td>0.97</td>
<td>[-3.44, 3.58]</td>
</tr>
<tr>
<td></td>
<td>Living with partner (Age 23)</td>
<td>-0.68</td>
<td>1.23</td>
<td>-0.55 (19)</td>
<td>0.59</td>
<td>[-3.24, 1.88]</td>
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<tr>
<td></td>
<td>Married to partner (Age 23)</td>
<td>-1.05</td>
<td>1.28</td>
<td>-0.82 (23)</td>
<td>0.42</td>
<td>[-3.7, 1.60]</td>
</tr>
<tr>
<td></td>
<td>Relationship length (Age 23)</td>
<td>0.04</td>
<td>0.03</td>
<td>1.36 (12)</td>
<td>0.20</td>
<td>[-0.02, 0.09]</td>
</tr>
<tr>
<td></td>
<td>Have child (Age 23)</td>
<td>0.65</td>
<td>1.46</td>
<td>0.45 (16)</td>
<td>0.66</td>
<td>[-2.44, 3.75]</td>
</tr>
<tr>
<td></td>
<td>Have 1st child between 24-32</td>
<td>1.91</td>
<td>1.76</td>
<td>1.09 (14)</td>
<td>0.30</td>
<td>[-1.86, 5.69]</td>
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<tr>
<td></td>
<td>Early Caregiving</td>
<td>1.18</td>
<td>0.92</td>
<td>1.29 (19)</td>
<td>0.21</td>
<td>[-0.74, 3.10]</td>
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<td>Romantic Quality (Age 23)</td>
<td>0.16</td>
<td>0.10</td>
<td>1.60 (16)</td>
<td>0.13</td>
<td>[-0.05, 0.37]</td>
</tr>
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<td></td>
<td>Early Caregiving $\times$ Age 23 Romantic Quality</td>
<td>0.02</td>
<td>0.21</td>
<td>0.11 (11)</td>
<td>0.91</td>
<td>[-0.44, 0.49]</td>
</tr>
<tr>
<td></td>
<td>Model $R^2 = 0.21$</td>
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</table>

† $p < .10$. *$p \leq .05$. **$p < .01$
Table 14

Multiple regression predicting romantic relationship quality (age 32) as a function of early caregiving and age 23 work competence

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(df)</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.42</td>
<td>0.51</td>
<td>0.83 (65)</td>
<td>0.41</td>
<td>[-0.59, 1.44]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>0.18</td>
<td>0.80</td>
<td>0.22 (65)</td>
<td>0.83</td>
<td>[-1.43, 1.78]</td>
</tr>
<tr>
<td>Age 23 Work Competence</td>
<td>1.22**</td>
<td>0.38</td>
<td>3.24 (65)</td>
<td>&lt;0.01</td>
<td>[0.47, 1.98]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23 Work Competence</td>
<td>-0.70</td>
<td>0.53</td>
<td>-1.32 (65)</td>
<td>0.19</td>
<td>[-1.76, 0.36]</td>
</tr>
</tbody>
</table>

† p < .10. *p ≤ .05. **p <.01

Model $R^2 = 0.13$
Table 15

Descriptive statistics and zero-order correlations for variables in depression/anxiety symptom analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>0.55</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>0.09</td>
<td>0.64</td>
<td>0.13</td>
<td>—</td>
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<td></td>
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<tr>
<td>3</td>
<td>0.07</td>
<td>0.87</td>
<td>0.00</td>
<td>0.19†</td>
<td>—</td>
<td></td>
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<tr>
<td>4</td>
<td>0.66</td>
<td>24.29</td>
<td>0.28**</td>
<td>-0.15</td>
<td>-0.02</td>
<td>—</td>
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<td></td>
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<tr>
<td>5</td>
<td>0.22</td>
<td>—</td>
<td>0.12</td>
<td>-0.05</td>
<td>0.00</td>
<td>0.38**</td>
<td>—</td>
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<tr>
<td>6</td>
<td>37.06</td>
<td>—</td>
<td>0.11</td>
<td>-0.05</td>
<td>-0.04</td>
<td>0.39**</td>
<td>0.30**</td>
<td>—</td>
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<tr>
<td>7</td>
<td>0.45</td>
<td>—</td>
<td>0.02</td>
<td>-0.29**</td>
<td>-0.11</td>
<td>0.18</td>
<td>0.23*</td>
<td>0.31**</td>
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<td>3.06</td>
<td>1.35</td>
<td>-0.07</td>
<td>0.24*</td>
<td>0.25*</td>
<td>-0.17</td>
<td>0.02</td>
<td>-0.10</td>
<td>-0.22*</td>
<td>—</td>
<td></td>
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<tr>
<td>9</td>
<td>0.30</td>
<td>—</td>
<td>0.06</td>
<td>0.01</td>
<td>-0.15</td>
<td>0.02</td>
<td>0.04</td>
<td>-0.06</td>
<td>-0.59**</td>
<td>0.08</td>
<td>—</td>
<td></td>
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<tr>
<td>10</td>
<td>0.40</td>
<td>—</td>
<td>-0.01</td>
<td>-0.02</td>
<td>0.35**</td>
<td>0.11</td>
<td>0.17</td>
<td>0.29**</td>
<td>0.01</td>
<td>0.09</td>
<td>0.22*</td>
<td>—</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11</td>
<td>0.05</td>
<td>0.76</td>
<td>-0.02</td>
<td>0.21†</td>
<td>0.19†</td>
<td>-0.07</td>
<td>-0.05</td>
<td>-0.07</td>
<td>-0.28*</td>
<td>0.44**</td>
<td>0.17</td>
<td>0.23*</td>
<td>—</td>
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</tr>
<tr>
<td>11</td>
<td>5.16</td>
<td>4.56</td>
<td>0.19†</td>
<td>-0.07</td>
<td>-0.44**</td>
<td>0.21†</td>
<td>0.07</td>
<td>0.09</td>
<td>-0.14</td>
<td>-0.14</td>
<td>0.29**</td>
<td>-0.11</td>
<td>-0.05</td>
<td>—</td>
<td></td>
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<tr>
<td>13</td>
<td>6.23</td>
<td>5.35</td>
<td>-0.01</td>
<td>0.00</td>
<td>-0.16</td>
<td>0.09</td>
<td>0.20†</td>
<td>0.12</td>
<td>-0.14</td>
<td>-0.09</td>
<td>0.16</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.58**</td>
<td>—</td>
</tr>
<tr>
<td>14</td>
<td>4.98</td>
<td>4.73</td>
<td>0.07</td>
<td>-0.04</td>
<td>-0.30**</td>
<td>0.04</td>
<td>0.06</td>
<td>0.15</td>
<td>-0.09</td>
<td>-0.05</td>
<td>0.10</td>
<td>-0.09</td>
<td>-0.20†</td>
<td>0.63**</td>
<td>0.50**</td>
</tr>
</tbody>
</table>

Table 16

Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(N*)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.92**</td>
<td>1.65</td>
<td>3.59 (247)</td>
<td>[2.69, 9.15]</td>
</tr>
<tr>
<td>Gender</td>
<td>0.69</td>
<td>0.88</td>
<td>0.79 (247)</td>
<td>[-1.03, 2.41]</td>
</tr>
<tr>
<td>Time (years)</td>
<td>-0.04</td>
<td>0.06</td>
<td>-0.64 (247)</td>
<td>[-0.15, 0.07]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>1.06</td>
<td>2.47</td>
<td>0.43 (247)</td>
<td>[-3.78, 5.91]</td>
</tr>
<tr>
<td>Age 23 Romantic Quality</td>
<td>-2.36</td>
<td>1.83</td>
<td>-1.29 (247)</td>
<td>[-5.95, 1.23]</td>
</tr>
<tr>
<td>Early Caregiving × Time</td>
<td>-0.03</td>
<td>0.09</td>
<td>-0.34 (247)</td>
<td>[-0.20, 0.14]</td>
</tr>
<tr>
<td>Age 23 Romantic Quality × Time</td>
<td>0.03</td>
<td>0.07</td>
<td>0.46 (247)</td>
<td>[-0.10, 0.16]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23 Romantic Quality × Time</td>
<td>-0.20†</td>
<td>0.11</td>
<td>-1.90 (247)</td>
<td>[-0.41, 0.01]</td>
</tr>
</tbody>
</table>

† p < .10. *p < .05. **p < .01
### Table 17

**Linear mixed model predicting trajectories of depression/anxiety symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality, including controls**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t(N*)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.92†</td>
<td>2.34</td>
<td>1.67 (247)</td>
<td>[-0.67, 8.51]</td>
</tr>
<tr>
<td>Gender</td>
<td>0.44</td>
<td>0.91</td>
<td>0.48 (247)</td>
<td>[-1.35, 2.22]</td>
</tr>
<tr>
<td>Age 32 SES and Financial Health</td>
<td>-0.53</td>
<td>0.61</td>
<td>-0.87 (247)</td>
<td>[-1.72, 0.66]</td>
</tr>
<tr>
<td>With same partner ages 23-32</td>
<td>0.90</td>
<td>3.57</td>
<td>0.25 (247)</td>
<td>[-6.10, 7.90]</td>
</tr>
<tr>
<td>Living with partner (Age 23)</td>
<td>-0.01</td>
<td>1.08</td>
<td>-0.01 (247)</td>
<td>[-2.13, 2.11]</td>
</tr>
<tr>
<td>Married to partner (Age 23)</td>
<td>1.75</td>
<td>1.18</td>
<td>1.49 (247)</td>
<td>[-0.55, 4.06]</td>
</tr>
<tr>
<td>Relationship length (Age 23)</td>
<td>0.04†</td>
<td>0.02</td>
<td>1.71 (247)</td>
<td>[-0.01, 0.08]</td>
</tr>
<tr>
<td>Have child (Age 23)</td>
<td>-2.58*</td>
<td>1.30</td>
<td>-1.98 (247)</td>
<td>[-5.14, -0.03]</td>
</tr>
<tr>
<td>Have 1st child between 24-32</td>
<td>4.51</td>
<td>3.74</td>
<td>1.21 (247)</td>
<td>[-2.82, 11.83]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>0.81</td>
<td>2.50</td>
<td>0.32 (247)</td>
<td>[-4.09, 5.70]</td>
</tr>
<tr>
<td>Romantic Quality (Age 23)</td>
<td>-2.20</td>
<td>2.03</td>
<td>-1.08 (247)</td>
<td>[-6.18, 1.78]</td>
</tr>
<tr>
<td>Time (years)</td>
<td>0.02</td>
<td>0.08</td>
<td>0.32 (247)</td>
<td>[-0.13, 0.17]</td>
</tr>
<tr>
<td>With same partner ages 23-32 x Time</td>
<td>-0.03</td>
<td>0.13</td>
<td>-0.23 (247)</td>
<td>[-0.28, 0.22]</td>
</tr>
<tr>
<td>Have 1st child between 24-32 x Time</td>
<td>-0.18</td>
<td>0.13</td>
<td>-1.37 (247)</td>
<td>[-0.43, 0.08]</td>
</tr>
<tr>
<td>Early Caregiving x Age 23 Romantic Quality</td>
<td>6.33*</td>
<td>3.02</td>
<td>2.09 (247)</td>
<td>[0.41, 12.26]</td>
</tr>
<tr>
<td>Early Caregiving x Time</td>
<td>-0.03</td>
<td>0.09</td>
<td>-0.34 (247)</td>
<td>[-0.20, 0.14]</td>
</tr>
<tr>
<td>Age 23 Romantic Quality x Time</td>
<td>0.02</td>
<td>0.07</td>
<td>0.32 (247)</td>
<td>[-0.12, 0.16]</td>
</tr>
<tr>
<td>Early Caregiving x Age 23 Romantic Quality x Time</td>
<td>-0.17</td>
<td>0.11</td>
<td>-1.61 (247)</td>
<td>[-0.38, 0.04]</td>
</tr>
</tbody>
</table>

†p < .10, *p ≤ .05, **p < .01
Table 18

Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 romantic quality (imputed data)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>t(N*)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interceptor</td>
<td>4.84*</td>
<td>2.29</td>
<td>2.11</td>
<td>(801) [0.01, 9.67]</td>
</tr>
<tr>
<td>Gender</td>
<td>1.40</td>
<td>0.88</td>
<td>1.58</td>
<td>(801) [-0.40, 3.19]</td>
</tr>
<tr>
<td>Time (years)</td>
<td>0.03</td>
<td>0.08</td>
<td>0.38</td>
<td>(801) [-0.14, 0.20]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>2.82</td>
<td>2.34</td>
<td>1.21</td>
<td>(801) [-1.85, 7.49]</td>
</tr>
<tr>
<td>Age 23 Romantic Quality</td>
<td>-0.59*</td>
<td>0.28</td>
<td>-2.14</td>
<td>(801) [-1.16, -0.02]</td>
</tr>
<tr>
<td>Early Caregiving × Time</td>
<td>-0.13</td>
<td>0.09</td>
<td>-1.50</td>
<td>(801) [-0.30, 0.04]</td>
</tr>
<tr>
<td>Age 23 Romantic Quality × Time</td>
<td>0.01</td>
<td>0.01</td>
<td>1.62</td>
<td>(801) [0.00, 0.03]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23</td>
<td>0.28</td>
<td>0.65</td>
<td>0.43</td>
<td>(801) [-1.13, 1.68]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23 Romance × Time</td>
<td>-0.01</td>
<td>0.02</td>
<td>-0.44</td>
<td>(801) [-0.05, 0.03]</td>
</tr>
</tbody>
</table>

*p < .05.
Table 19

*Linear mixed model predicting trajectories of anxious-depressed symptoms (ages 23, 26, and 32) as a function of early caregiving and age 23 work competence*

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>t(N*)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>6.49**</td>
<td>1.72</td>
<td>3.78 (247)</td>
<td>[3.13, 9.86]</td>
</tr>
<tr>
<td>Gender</td>
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<td>0.95</td>
<td>0.84 (247)</td>
<td>[-1.06, 2.65]</td>
</tr>
<tr>
<td>Time (years)</td>
<td>-0.05</td>
<td>0.06</td>
<td>-0.92 (247)</td>
<td>[-0.16, 0.06]</td>
</tr>
<tr>
<td>Early Caregiving</td>
<td>0.43</td>
<td>1.67</td>
<td>0.26 (247)</td>
<td>[-2.85, 3.70]</td>
</tr>
<tr>
<td>Age 23 Work Competence</td>
<td>-1.48</td>
<td>1.66</td>
<td>-0.89 (247)</td>
<td>[-4.72, 1.77]</td>
</tr>
<tr>
<td>Early Caregiving × Time</td>
<td>-0.02</td>
<td>0.06</td>
<td>-0.33 (247)</td>
<td>[-0.13, 0.10]</td>
</tr>
<tr>
<td>Age 23 Work Competence × Time</td>
<td>0.04</td>
<td>0.06</td>
<td>0.70 (247)</td>
<td>[-0.07, 0.15]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23 Work Competence × Time</td>
<td>0.53</td>
<td>1.49</td>
<td>0.36 (247)</td>
<td>[-2.38, 3.45]</td>
</tr>
<tr>
<td>Early Caregiving × Age 23 Work Competence × Time</td>
<td>-0.02</td>
<td>0.05</td>
<td>-0.45 (247)</td>
<td>[-0.13, 0.08]</td>
</tr>
</tbody>
</table>

**p < .01.
Figure 1. Hypothesized age 32 life satisfaction and romantic quality results
Figure 2. Overview of focal measures
Figure 3. Predicted depression/anxiety growth curves as a function of early caregiving and age 23 romantic quality
Appendix 3: Age 23 Romantic Relationship Coding Scales

ENJOYMENT

This scale measures the participant’s subjective sense of enjoyment in his/her current romantic relationship. Of interest is the degree to which the participant sees the partner as a source of happiness, pleasure, and good feelings. Thus, in evaluating enjoyment consider the participant’s needs and interests (e.g., affiliation, prestige, affirmation, romance) regarding the romantic relationship and how this partner meets them. Enjoyment need not require commitment, but rather is evident in the extent to which the couple enjoys spending time together and the degree to which just being with the partner is represented as special. Evidence can come from examples or from direct statements showing the participant’s experience of enjoyment in the relationship.

Consider the balance between positive and negative attributes of the relationship. High scores go to participants who see their partner as special and unique – one with whom the participant feels happy and affirmed. There is a predominance of positive attributes mentioned about the partner. Low scoring individuals experience their relationship or partner in a markedly negative manner, possibly raising questions as to why the participant continues the relationship.

5 – Very High Enjoyment
The participant is very positive about the partner and relationship and seems extremely happy with it. The partner is described as special in that he/she clearly makes the participant feel good. No obvious negative features detract from enjoyment. The participant provides clear and strong statements that support feelings of enjoyment.

4 – High Enjoyment
The relationship is described as characteristically pleasant. Minor negativity may be expressed, but the participant clearly enjoys being with the partner.

3 – Moderate Enjoyment
The relationship is moderately enjoyable and considered worthwhile by the participant, but some negative qualities may be emphasized. Although these qualities do not substantially diminish the participant’s overall positive sense of the relationship, they detract from the participant’s full enjoyment.

2 – Low Enjoyment
The participant finds the relationship with the partner only somewhat enjoyable. While the participant enjoys aspects about the relationship and may mention some positive qualities, clear areas of dissatisfaction are evident. Some negative concerns may be relatively serious and/or chronic.

1 – Very Low Enjoyment
The relationship and partner are described primarily in negative terms. The participant provides almost no statements of satisfaction with the relationship, and lacks a sense of enjoyment with the romantic partner a majority of the time.
COMMITMENT

This scale measures the participant’s current commitment to her/his romantic relationship. Commitment is defined as the participant’s resolve to maintain the relationship over time.

The evidence that supports higher scores on commitment includes the individual’s
- desire that the relationship will endure for the rest of his/her life - the relationship will be permanent
- high level of investment (energy and resources) in the relationship
- lack of desire for, and focus on, alternative romantic involvements

5 - Very High Commitment
An individual with this rating certainly wants the relationship to endure for life.

a) There is no doubt that this individual desires the stability of his/her relationship, and believes that the relationship will be permanent. The participant clearly wants the relationship to be solid and long-term.
   b) The individual invests energy and resources in this relationship.
   c) There is no evidence of the participant’s unfaithfulness, and no evidence of personal behaviors that reflect an interest in other relationship options or interest in other potential partners.

4 - High Commitment
The individual has some minor uncertainty about commitment. One or more of the following occurs:

a) The participant expresses desire that this relationship will be permanent, but some small doubt may be expressed.
   b) The individual almost always invests energy and resources in this relationship.
   c) There is strong and consistent evidence of a high level of commitment, except there was a desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) that occurred in an early stage of the relationship, but appears resolved.

3 - Moderate Commitment
The individual has moderate uncertainty about commitment. One or more of the following occurs:

a) The participant expresses desire that this be a permanent relationship, but on more than one occasion expresses doubt about desire or the likelihood that it will be permanent.
   b) The individual usually invests energy and/or resources in this relationship.
   c) There is evidence of unfaithfulness or interests in other relationships in any stage of the relationship, but there is evidence of significant steps toward resolution.

2 - Low Commitment
The individual has major uncertainty about commitment. Although the individual may express desire that this relationship will last a long period of time, he or she also expresses uncertainty about whether he/she wants it to last or is uncertain as to how realistic this is. One or more of the following occurs:

a) Even though the participant may express desire that this be a permanent relationship, he or she also expresses substantial doubts that it will be permanent.
   b) The individual usually does not invest energy and/or resources in this relationship.
   c) There has been a desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) in a recent stage of the relationship. However, there may have been attempts to overcome these desires and resolve these issues, but resolution seems distant or problematic.

1 - Very Low Commitment
An individual with this rating is not committed to this relationship. She/He may express desire that this relationship continue for some time, but does not seem to want it to continue long-term or is very uncertain about how realistic that is. One or more of the following occurs:

a) The participant expresses little to no desire that this be a permanent relationship and/or does not expect that it will be permanent.

b) The individual rarely invests energy and/or resources in this relationship.

c) There has been a recent desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) with almost no attempt to resolve or overcome these desires.

d) The participant may see this relationship as more than short-term, but only if no problems arise. Commitment is contingent on positive experiences.
SECURITY

Security entails expectations that significant others will be available and sensitively responsive to one’s needs, particularly in times of distress. Thus, this scale measures the extent to which the participant believes the partner is available and responsive to his or her needs, and feels able to be wholly her/himself in this particular relationship. It follows from secure expectations that: 1) topics are discussed openly with the partner without fear of disregard or rejection, 2) he/she can “be himself/herself” and expect to be accepted by the partner, and, 3) he/she seems confident that the partner will be available and can be approached when needed for emotional support. A history of infidelity alone should not warrant a low score on security, but adjust the score downwards if the aftermath of the infidelity had yet to be completely resolved (e.g., trust is still an issue or there is concern about future faithfulness).

At the **High** end of the scale, the participant can be wholly himself or herself without hiding or withholding information. The participant expects the partner to be available to share concrete and emotional experiences in both good and bad times, to be supportive and available, to help with problems, and to stick by the participant. Any past infidelity has been adequately resolved.

**Middle** scores reflect the participant’s (or the coder’s) uncertainty about the partner’s consistent reliability. This may be a result of poor examples provided to support the participant’s apparent feelings of security. Alternatively, relationships in the midst of changing from low to high (or high to low) security may be given a mid-range score if appropriate (e.g., issues of trust have been a problem in this past but partners seem to be in the process of resolving them).

At the **Low** end of the scale, the participant feels that s/he must be emotionally guarded in exchanges with the partner. The participant’s expressions of need for support or some emotions (e.g., embarrassment, irritation, anger) may be communicated indirectly because the participant is uncertain that the partner will be accepting. The coder may sense that the partner is relatively unavailable, unresponsive, unreliable, self-serving, or even rejecting and cruel. The partner may have been unfaithful in the past and gives no indications that that participant can trust their future behavior.

*When in doubt, attempt to answer the following question:* If the participant had a salient emotional need, would s/he feel free to bring it to this partner and would s/he expect an accepting, supportive reaction with no threat to the relationship?

5 – **High Security**
- **Security:** Clearly expressed/demonstrated certainty that the partner can be turned to for emotional support. The participant can bring feelings, tender needs, and problems to the partner and expect the partner to be available and supportive.
- **Insecurity:** No significant, identifiable indicator of insecurity in this relationship is present in the interview. If infidelity was an issue in the past, it seems to be adequately resolved with no lingering doubts about trust.
- **Evidence:** Examples or statements are convincing and are not contradicted.

4 – **Mostly Secure**
- **Security:** Similar to 5 in terms of strong security. The partner seems available and supportive.
- **Insecurity:** Mild forms of distancing from emotional topics. The participant may choose to deal with some issues alone rather than bring them to the partner, or the participant may be mildly anxious about how the partner will respond. If infidelity was present, the participant may state that problem has been resolved, but that trust is still an issue.
• **Evidence**: Examples or statements are somewhat less remarkable and not elaborated; may tend to avoid answering emotional questions. Even so, at least one example or statement given in the interview portrays a clearly secure set of expectations regarding this relationship.

3 – Uncertain Security

- **Security & Insecurity**: A mix of security and insecurity is evident in the relationship. The participant may feel that the partner can be relied upon, but the coder remains doubtful. Alternatively, the participant may express doubt in the partner's availability, but there are no striking examples of the cause of this doubt in the transcript. In the case of infidelity, perhaps the participant or the coder is not completely confident that the partner will remain faithful in the future, but at present the partner's behavior seems trustworthy.
- **Evidence**: If security is doubted by:
  - Coder → transcript may show slightly contradicting evidence or poor support for apparent feelings of security
  - Participant → no supporting examples of their broad, general statements that imply that the relationship is secure

2 – Low Security

- **Security**: Some minor identifiable positive indication of security mitigates the insecurity. Perhaps the participant is occasionally surprised by a sensitive response. Something in the interview suggests that the partner may on rare occasions be counted upon to be supportive.
- **Insecurity**: Evidence for insecurity includes unresponsiveness, unavailability, or unreliability. The participant may doubt the partner's future faithfulness and has reasonable cause for concern.
- **Evidence**: Look for a mostly insecure relationship with rare instances of security.

1 – No Security

- **Security**: Striking evidence or statements of insecurity outweigh any indications of security.
- **Insecurity**: The participant cannot count on the partner to respond sensitively to his/her needs. S/he is not comfortable being her/himself with the partner and feels (or provides examples demonstrating) that partner is unavailable, unresponsive, insensitive, unreliable, opportunistic, or even cruel and rejecting. The partner may have been unfaithful on multiple occasions with no or little regard for their partner's feelings, and no evidence of remorse or intent to change.
- **Evidence**: Convincing examples or statements support these feelings of insecurity.
EFFECTIVENESS OF CONFLICT RESOLUTION

This scale measures the effectiveness of conflict resolution. The most important element is the equity of conflict resolutions and the use of collaborative conflict strategies. Frequency of conflict is not a component of this scale except that it may reflect effectiveness or ineffectiveness of resolution strategies. The presence of chronic and persistent conflict may indicate that disagreements are generally not effectively managed. It should be noted that the absence of conflict might mark denial, non-disclosure, or a nascent relationship (i.e. 'honeymoon phase').

At the high end of the scale, the partners are sensitive to each other’s concerns and attempt to compromise to reach solutions. Both partners are satisfied with the resolution of conflict, and tension, hurt, and anger do not linger after the resolution. Important subjects in the relationship are actively addressed.

At the middle of the scale, conflict is resolved well most of the time, but there are some problems in the process of conflict resolution. For example, resolution may be achieved without an active effort, or partners may not be completely satisfied with solutions. Partners may use strategies that do not reflect sensitivity to the other’s concerns, but in general these strategies seem to satisfy the couple. Alternatively, there may be an absence of conflict, but the coder senses this is due to some denial or non-disclosure.

At the low end of the scale, conflict resolution strategies are problematic. Strategies may not work, such that there is recurrent conflict over subjects. The relationship may revolve around conflict, and partners may express that subjects of concern can not be resolved. Alternatively, strategies may be effective in preventing recurrent conflict, but in a way that is hurtful to one or both partners. For example, one person may have more power in the relationship and dominate and/or victimize the other. Strategies such as physical fighting and disengagement may be used.

Checklist item:
Does this relationship appear to be in an early stage in which there is idealization and/or exaggerated accommodation (i.e., “honeymoon stage”)?

5 - Superior
- There is evidence of effective and fair approaches to conflict resolution.
- Areas of conflict are successfully negotiated to the full satisfaction of both people.
- There is evidence of compromise and sensitivity to the needs of both people.
- Subjects of importance to the relationship are actively addressed.
- More minor subjects do not lead to intense or prolonged conflict or tension.
- There is no evidence of a power differential where one person almost always tends to go along with the other.

4 - Above Average
- Examples of conflict or tension may be lacking, but there is no obvious avoidance or inconsistency in the report. A relationship which appears to be in an early developmental stage or in which there may be idealization and/or exaggerated accommodation (i.e. ‘honeymoon stage’) may receive a score of 4 if there are no indications of underlying tension at this time (otherwise, consider a 3).
- Areas of potential or actual conflict are sometimes, but not always, negotiated to the full satisfaction of both people.
- There are attempts at compromise and sensitivity to the needs of both people, but this process is imperfect.
- There may not be active attempts to address subjects of importance to the relationship, but at least these subjects are not avoided.

3 - Average
Approaches to conflict resolution are average; that is, within a single conflict or across multiple conflicts the partners use strategies that seem likely to result in resolution, and other times use strategies that seem unlikely to result in resolution.

Overall, things are worked out, although strategies do not necessarily involve sensitivity and concern for the other.

Possible situations include:
(a) Resolution 'sort of happens' without any active effort. Some resolutions may be made by default. The passive approach does not appear to cause problems or injustices.
(b) There is mild disengagement by one or both partners when dealing with conflict.
(c) Conflict is not acknowledged; even differences of opinion are not acknowledged, yet it seems likely that there is some denial or non-disclosure.

2 - Below Average
Approaches are somewhat inadequate in resolving conflict.
Resolutions may not involve fair compromises.
There may not be a commitment to resolving subjects of importance to the relationship or mild conflict may be viewed as insurmountable by one or both people.
Possible situations include:
(a) Strategies do not fully resolve conflicts. Tension may remain long after the conflicts. One or both people may become increasingly dissatisfied with the way various subjects are handled. Previously addressed subjects may resurface periodically.
(b) There is persistent conflict over trivial subjects. The relationship may appear to revolve around conflict.
(c) There are active attempts to avoid certain subjects due to the inability to resolve disagreements.
(d) There is evidence of a clear and pervasive power differential in the relationship that affects conflict management. One person may regularly back-down when conflicts develop.
(e) There may have been physical fighting on one occasion.
(f) There is often disengagement by one or both partners when dealing with conflict.

1 - Poor
Approaches to conflict resolution are very problematic.
There is no evidence that the relationship involves mutual give-and-take and/or concern for the other.
One or both people may show insensitivity and/or persistent selfishness in the relationship.
Possible situations include:
(a) Obvious victimization of one person by the other.
(b) Escalation of conflict ('getting even', revenge).
(c) Perhaps resorting to physical fighting on more than one occasion.
(d) There are active attempts to avoid any subject of possible conflict. Even serious problems are avoided and not addressed.
(e) One or both people completely emotionally disengage from the relationship.
OVERALL QUALITY OF RELATIONSHIP

This scale is an evaluation of the goodness of the relationship. High scores imply that this is a good relationship characterized by the following: mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another's needs and wishes; sharing of experience, as well as enjoyment of each other; loyalty, honesty, and faithfulness. The relationship contributes to a positive sense of self, high self-esteem, and self-respect.

Relationships that score at the low end of this scale would be devoid of the aforementioned qualities. Therefore, this relationship would be emotionally distant, lacking in trust and mutual caring, selfish or insensitive to one another's needs and wishes (there may be unfaithfulness), or the relationship may be characterized by strikingly negative features (e.g., victimization, chronic intense conflict, active rejection, controlling behaviors, disrespect, mistrust); the relationship could be hurtful emotionally to one or both parties. The relationship contributes to a negative sense of self, low self-esteem, and self-derogation.

Relationships that receive moderate scores can involve various combinations of insufficiently present positive qualities or the presence of negative qualities.

5 - Very Good Quality
- This relationship is characterized by deep caring.
- All of the qualities of a positive relationship are obvious: mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another's needs and wishes; sharing of experience; enjoyment of each other; loyalty, honesty, and faithfulness.
- The relationship may contribute to a positive sense of self, high self-esteem, and self-respect.
- There is evidence that positive emotional experiences are shared by both parties in the relationship.
- This relationship is not necessarily perfect; minor disagreements may be present but are resolved to the mutual satisfaction of both parties and lead to a strengthening of the relationship.

4 - Good Quality
- The relationship involves caring on the part of both parties.
- Most of the qualities of a positive relationship are present (i.e., mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another's needs and wishes, sharing of experience, enjoyment of each other; loyalty, honesty, fidelity, and faithfulness); however, some isolated positive feature may be insufficiently present, or some isolated concern may arise as one listens to the interview.
- The relationship may contribute to a positive sense of self, high self-esteem, and self-respect.
- Both parties share positive emotional experiences in the relationship.
- Disagreements may be present, but are usually resolved to the mutual satisfaction of both parties.

3 - Average Quality
- The relationship involves caring on the part of both parties, but there may be a lack of depth.
- Compared to higher scores, positive features are somewhat diminished, or occasional negative features are more clear. Certain positive qualities may be lacking.
- If negative features are present, these remain overbalanced by positive qualities.
- The relationship may contribute to a positive sense of self, self-esteem, and self-respect, but it does not contribute to a negative sense of self, low self-esteem, or self-derogation.
- One or both parties may have positive emotional experiences in the relationship.
- Disagreements are present and may be resolved, but resolution is not always to the mutual satisfaction of both parties.

2 - Fair Quality
• It is unclear whether the relationship involves caring on the part of both parties, or some degree of caring is evident but appears to be limited.
• Some positive features may be present in the relationship; however, the negative features somewhat outweigh the positive.
• The relationship may contribute to a negative sense of self, low self-esteem, or self-derogation.
• One or both parties may at times appear to be emotionally distant in the relationship or may have negative emotional experiences in the relationship.
• Disagreements may be recurring or resolution of disagreement may not be fair to both parties.

1 - Poor Quality
• The coder may question whether this is a salient relationship, or the relationship is exploitative, hurtful, and/or destructive to one or both parties.
• Very few positive features are present in the relationship. Negative features are clearly evident, e.g., lack of trust or mutual caring, selfishness, insensitivity to one another’s needs and wishes, unfaithfulness, disrespect, active rejection, controlling behaviors. (Note: not all negative features need to be present, but negative features clearly characterize this relationship.)
• The relationship contributes to a negative sense of self, low self-esteem, and self-derogation for one or both parties.
• One or both parties may be emotionally distant in the relationship or may experience mostly negative emotions.
• Chronic or intense conflict may be present in the relationship.
Appendix 4: Age 32 Romantic Relationship Coding Scales

ENJOYMENT

This scale measures the participant’s subjective sense of enjoyment in his/her current romantic relationship. Of interest is the degree to which the participant sees the partner as a source of happiness, pleasure, and good feelings. Enjoyment need not require commitment, but rather is evident in the extent to which the couple enjoys spending time together and the degree to which just being with the partner is represented as special. Evidence can come from examples or from direct statements showing the participant's experience of enjoyment in the relationship.

Consider the balance between positive and negative attributes of the relationship. High scores go to participants who see their partner as special and unique — one with whom the participant feels happy and affirmed. There is a predominance of positive attributes mentioned about the partner. Low scoring individuals experience their relationship or partner in a markedly negative manner, possibly raising questions as to why the participant continues the relationship.

5 – Very High Enjoyment
The participant is very positive about the partner and relationship and seems extremely happy with it. The partner is described as special in that he/she clearly makes the participant feel good. No obvious negative features detract from enjoyment. The participant provides clear and strong statements that support feelings of enjoyment.

4 – High Enjoyment
The relationship is described as characteristically pleasant. Minor negativity may be expressed, but the participant clearly enjoys being with the partner.

3 – Moderate Enjoyment
The relationship is moderately enjoyable and considered worthwhile by the participant, but some negative qualities may be emphasized. Although these qualities do not substantially diminish the participant’s overall positive sense of the relationship, they detract from the participant’s full enjoyment.

2 – Low Enjoyment
The participant finds the relationship with the partner only somewhat enjoyable. While the participant enjoys aspects about the relationship and may mention some positive qualities, clear areas of dissatisfaction are evident. Some negative concerns may be relatively serious and/or chronic.

1 – Very Low Enjoyment
The relationship and partner are described primarily in negative terms. The participant provides almost no statements of satisfaction with the relationship, and lacks a sense of enjoyment with the romantic partner a majority of the time.
COMMITMENT

This scale measures the participant’s current commitment to her/his romantic relationship. Commitment is defined as the participant’s resolve to maintain the relationship over time. Participants are not to be penalized for having a relationship that is relatively short in duration.

The evidence that supports higher scores on commitment includes the individual’s
- desire that the relationship will be stable and long-term.
- high level of investment (energy and resources) in the relationship
- lack of desire for, and focus on, alternative romantic involvements

References to the participant’s doubts about the future of the relationship should result in lower commitment scores only when it is clear that the participant’s commitment is questionable. Participants who mention doubts about the relationship’s future due to the partner’s lack of commitment or some other external force should not be penalized.

Checklist item: 
Has this person reported any structural barriers that prevent the dissolution of this relationship (i.e., Being married to and/or having children with partner, being financially dependant on partner, and/or common financial obligations like a mortgage)?

5 - Very High Commitment
An individual with this rating certainly wants the relationship to endure for life.
- There is no doubt that this individual desires the stability of his/her relationship. The participant clearly wants the relationship to be solid and long-term.
- The individual invests energy and resources in this relationship.
- There is no evidence of the participant’s unfaithfulness, and no evidence of personal behaviors that reflect an interest in other relationship options or interest in other potential partners.

4 - High Commitment
The individual has some minor uncertainty about commitment. One or more of the following occurs:
- The participant expresses the desire that this relationship become/remain solid and long-term, but some small doubt may be expressed.
- The individual almost always invests energy and resources in this relationship.
- There is strong and consistent evidence of a high level of commitment, except there was a desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) that occurred in an early stage of the relationship, but appears resolved.

3 - Moderate Commitment
The individual has moderate uncertainty about commitment. One or more of the following occurs:
- The participant expresses desire that this be a solid and long-term relationship, but on more than one occasion expresses doubt about desire or the likelihood that it will be/remain solid and long-term.
- The individual usually invests energy and/or resources in this relationship.
- There is evidence of unfaithfulness or interests in other relationships in any stage of the relationship, but there is evidence of significant steps toward resolution.

2 - Low Commitment
The individual has major uncertainty about commitment. Although the individual may express desire that this relationship will last a long period of time, he or she also expresses uncertainty
about whether he/she wants it to last or is uncertain as to how realistic this is. One or more of the following occurs:

- Even though the participant may express desire that this be a solid and long-term relationship, he or she also expresses substantial doubts that this will occur.
- The individual usually does not invest energy and/or resources in this relationship.
- There has been a desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) in a recent stage of the relationship. However, there may have been attempts to overcome these desires and resolve these issues, but resolution seems distant or problematic.

1 - Very Low Commitment
An individual with this rating is not committed to this relationship. She/He may express desire that this relationship continue for some time, but does not seem to want it to continue long-term or is very uncertain about how realistic that is. One or more of the following occurs:

- The participant expresses little to no desire that this be a solid and long-term relationship and/or does not expect that it will be solid and long-term.
- The individual rarely invests energy and/or resources in this relationship.
- There has been a recent desire for other romantic involvement or actual romantic involvement (e.g., unfaithfulness, romantic interest in another) with almost no attempt to resolve or overcome these desires.
- The participant may see this relationship as more than short-term, but only if no problems arise. Commitment is contingent on positive experiences.
SECURITY

Security entails expectations that significant others will be available and sensitively responsive to one’s needs, particularly in times of distress. Thus, this scale measures the extent to which the participant believes the partner is available and responsive to his or her needs, and feels able to be wholly her/himself in this particular relationship. It follows from secure expectations that: 1) topics are discussed openly with the partner without fear of disregard or rejection, 2) he/she can “be himself/herself” and expect to be accepted by the partner, and, 3) he/she seems confident that the partner will be available and can be approached when needed for emotional support. A history of infidelity alone should not warrant a low score on security, but adjust the score downwards if the aftermath of the infidelity had yet to be completely resolved (e.g., trust is still an issue or there is concern about future faithfulness).

At the High end of the scale, the participant can be wholly himself or herself without hiding or withholding information. The participant expects the partner to be available to share concrete and emotional experiences in both good and bad times, to be supportive and available, to help with problems, and to stick by the participant. Any past infidelity has been adequately resolved.

Middle scores reflect the participant’s (or the coder’s) uncertainty about the partner’s consistent reliability. This may be a result of poor examples provided to support the participant’s apparent feelings of security. Alternatively, relationships in the midst of changing from low to high (or high to low) security may be given a mid-range score if appropriate (e.g., issues of trust have been a problem in this past but partners seem to be in the process of resolving them).

At the Low end of the scale, the participant feels that s/he must be emotionally guarded in exchanges with the partner. The participant’s expressions of need for support or some emotions (e.g., embarrassment, irritation, anger) may be communicated indirectly because the participant is uncertain that the partner will be accepting. The coder may sense that the partner is relatively unavailable, unresponsive, unreliable, self-serving, or even rejecting and cruel. The partner may have been unfaithful in the past and gives no indications that that participant can trust their future behavior.

When in doubt, attempt to answer the following question: If the participant had a salient emotional need, would s/he feel free to bring it to this partner and would s/he expect an accepting, supportive reaction with no threat to the relationship?

5 – High Security
• Security: Clearly expressed/demonstrated certainty that the partner can be turned to for emotional support. The participant can bring feelings, tender needs, and problems to the partner and expect the partner to be available and supportive.
• Insecurity: No significant, identifiable indicator of insecurity in this relationship is present in the interview. If infidelity was an issue in the past, it seems to be adequately resolved with no lingering doubts about trust.
• Evidence: Examples or statements are convincing and are not contradicted.

4 – Mostly Secure
• Security: Similar to 5 in terms of strong security. The partner seems available and supportive.
• Insecurity: Mild forms of distancing from emotional topics. The participant may choose to deal with some issues alone rather than bring them to the partner, or the participant may be mildly anxious about how the partner will respond. If infidelity was present, the participant may state that problem has been resolved, but that trust is still an issue.
• Evidence: Examples or statements are somewhat less remarkable and not elaborated; may tend to avoid answering emotional questions. Even so, at least one example or statement given in the interview portrays a clearly secure set of expectations regarding this relationship.
3 – Uncertain Security
- **Security & Insecurity:** A mix of security and insecurity is evident in the relationship. The participant may feel that the partner can be relied upon, but the coder remains doubtful. Alternatively, the participant may express doubt in the partner’s availability, but there are no striking examples of the cause of this doubt in the transcript. In the case of infidelity, perhaps the participant or the coder is not completely confident that the partner will remain faithful in the future, but at present the partner’s behavior seems trustworthy.
- **Evidence:** If security is doubted by:
  - Coder → transcript may show slightly contradicting evidence or poor support for apparent feelings of security
  - Participant → no supporting examples of their broad, general statements that imply that the relationship is secure

2 – Low Security
- **Security:** Some minor identifiable positive indication of security mitigates the insecurity. Perhaps the participant is occasionally surprised by a sensitive response. Something in the interview suggests that the partner may on rare occasions be counted upon to be supportive.
- **Insecurity:** Evidence for insecurity includes unresponsiveness, unavailability, or unreliability. The participant may doubt the partner’s future faithfulness and has reasonable cause for concern.
- **Evidence:** Look for a mostly insecure relationship with rare instances of security.

1 – No Security
- **Security:** Striking evidence or statements of insecurity outweigh any indications of security.
- **Insecurity:** The participant cannot count on the partner to respond sensitively to his/her needs. S/he is not comfortable being her/himself with the partner and feels (or provides examples demonstrating) that partner is unavailable, unresponsive, insensitive, unreliable, opportunistic, or even cruel and rejecting. The partner may have been unfaithful on multiple occasions with no or little regard for their partner’s feelings, and no evidence of remorse or intent to change.
- **Evidence:** Convincing examples or statements support these feelings of insecurity.
EFFECTIVENESS OF CONFLICT RESOLUTION

This scale measures the effectiveness of conflict resolution. The most important element is the equity of conflict resolutions and the use of collaborative conflict strategies. Frequency of conflict is not a component of this scale except that it may reflect effectiveness or ineffectiveness of resolution strategies. The presence of chronic and persistent conflict may indicate that disagreements are generally not effectively managed. It should be noted that the absence of conflict might mark denial, non-disclosure, or a nascent relationship (i.e. ‘honeymoon phase’). It should also be noted that, for individuals who have been in a long-term relationship, the improvement in conflict resolution skills should be balanced with past poor conflict resolution strategies.

At the high end of the scale, the partners are sensitive to each other’s concerns and attempt to compromise to reach solutions. Both partners are satisfied with the resolution of conflict, and tension, hurt, and anger do not linger after the resolution. Important subjects in the relationship are actively addressed.

At the middle of the scale, conflict is resolved well most of the time, but there are some problems in the process of conflict resolution. For example, resolution may be achieved without an active effort, or partners may not be completely satisfied with solutions. Partners may use strategies that do not reflect sensitivity to the other’s concerns, but in general these strategies seem to satisfy the couple. Alternatively, there may be an absence of conflict, but the coder senses this is due to some denial or non-disclosure.

At the low end of the scale, conflict resolution strategies are problematic. Strategies may not work, such that there is recurrent conflict over subjects. The relationship may revolve around conflict, and partners may express that subjects of concern cannot be resolved. Alternatively, strategies may be effective in preventing recurrent conflict, but in a way that is hurtful to one or both partners. For example, one person may have more power in the relationship and dominate and/or victimize the other. Strategies such as physical fighting and disengagement may be used.

Checklist item:
Does this relationship appear to be in an early stage in which there is idealization and/or exaggerated accommodation (i.e., “honeymoon stage”)?

5 - Superior
• There is evidence of effective and fair approaches to conflict resolution.
• Areas of conflict are successfully negotiated to the full satisfaction of both people.
• There is evidence of compromise and sensitivity to the needs of both people.
• Subjects of importance to the relationship are actively addressed.
• More minor subjects do not lead to intense or prolonged conflict or tension.
• There is no evidence of a power differential where one person almost always tends to go along with the other.

4 - Above Average
• Examples of conflict or tension may be lacking, but there is no obvious avoidance or inconsistency in the report. A relationship which appears to be in an early developmental stage or in which there may be idealization and/or exaggerated accommodation (i.e. ‘honeymoon stage’) may receive a score of 4 if there are no indications of underlying tension at this time (otherwise, consider a 3).
• Areas of potential or actual conflict are sometimes, but not always, negotiated to the full satisfaction of both people.
• There are attempts at compromise and sensitivity to the needs of both people, but this process is imperfect.
There may not be active attempts to address subjects of importance to the relationship, but at least these subjects are not avoided.

3 - Average
- Approaches to conflict resolution are average; that is, within a single conflict or across multiple conflicts the partners use strategies that seem likely to result in resolution, and other times use strategies that seem unlikely to result in resolution.
- Overall, things are worked out, although strategies do not necessarily involve sensitivity and concern for the other.
- Possible situations include:
  (d) Resolution 'sort of happens' without any active effort. Some resolutions may be made by default. The passive approach does not appear to cause problems or injustices.
  (e) There is mild disengagement by one or both partners when dealing with conflict.
  (f) Conflict is not acknowledged; even differences of opinion are not acknowledged, yet it seems likely that there is some denial or non-disclosure.

2 - Below Average
- Approaches are somewhat inadequate in resolving conflict.
- Resolutions may not involve fair compromises.
- There may not be a commitment to resolving subjects of importance to the relationship or mild conflict may be viewed as insurmountable by one or both people.
- Possible situations include:
  (g) Strategies do not fully resolve conflicts. Tension may remain long after the conflicts. One or both people may become increasingly dissatisfied with the way various subjects are handled. Previously addressed subjects may resurface periodically.
  (h) There is persistent conflict over trivial subjects. The relationship may appear to revolve around conflict.
  (i) There are active attempts to avoid certain subjects due to the inability to resolve disagreements.
  (j) There is evidence of a clear and pervasive power differential in the relationship that affects conflict management. One person may regularly back-down when conflicts develop.
  (k) There may have been physical fighting on one occasion.
  (l) There is often disengagement by one or both partners when dealing with conflict.

1 - Poor
- Approaches to conflict resolution are very problematic.
- There is no evidence that the relationship involves mutual give-and-take and/or concern for the other.
- One or both people may show insensitivity and/or persistent selfishness in the relationship.
- Possible situations include:
  (f) Obvious victimization of one person by the other.
  (g) Escalation of conflict ('getting even', revenge).
  (h) Perhaps resorting to physical fighting on more than one occasion.
  (i) There are active attempts to avoid any subject of possible conflict. Even serious problems are avoided and not addressed.
  (j) One or both people completely emotionally disengage from the relationship.
OVERALL QUALITY OF RELATIONSHIP

This scale is an evaluation of the goodness of the relationship. High scores imply that this is a good relationship characterized by the following: mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another’s needs and wishes; sharing of experience, as well as enjoyment of each other; loyalty, honesty, and faithfulness. The relationship contributes to a positive sense of self, high self-esteem, and self-respect.

Relationships that score at the low end of this scale would be devoid of the aforementioned qualities. Therefore, this relationship would be emotionally distant, lacking in trust and mutual caring, selfish or insensitive to one another’s needs and wishes (there may be unfaithfulness), or the relationship may be characterized by strikingly negative features (e.g., victimization, chronic intense conflict, active rejection, controlling behaviors, disrespect, mistrust); the relationship could be hurtful emotionally to one or both parties. The relationship contributes to a negative sense of self, low self-esteem, and self-derogation.

Relationships that receive moderate scores can involve various combinations of insufficiently present positive qualities or the presence of negative qualities.

5 - Very Good Quality
- This relationship is characterized by deep caring.
- All of the qualities of a positive relationship are obvious: mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another’s needs and wishes; sharing of experience; enjoyment of each other; loyalty, honesty, and faithfulness.
- The relationship may contribute to a positive sense of self, high self-esteem, and self-respect.
- There is evidence that positive emotional experiences are shared by both parties in the relationship.
- This relationship is not necessarily perfect; minor disagreements may be present but are resolved to the mutual satisfaction of both parties and lead to a strengthening of the relationship.

4 - Good Quality
- The relationship involves caring on the part of both parties.
- Most of the qualities of a positive relationship are present (i.e., mutual caring, trust, and emotional closeness; willingness to sacrifice self interests; sensitivity to one another’s needs and wishes, sharing of experience, enjoyment of each other; loyalty, honesty, fidelity, and faithfulness); however, some isolated positive feature may be insufficiently present, or some isolated concern may arise as one listens to the interview.
- The relationship may contribute to a positive sense of self, high self-esteem, and self-respect.
- Both parties share positive emotional experiences in the relationship.
- Disagreements may be present, but are usually resolved to the mutual satisfaction of both parties.

3 - Average Quality
- The relationship involves caring on the part of both parties, but there may be a lack of depth.
- Compared to higher scores, positive features are somewhat diminished, or occasional negative features are more clear. Certain positive qualities may be lacking.
- If negative features are present, these remain overbalanced by positive qualities.
- The relationship may contribute to a positive sense of self, self-esteem, and self-respect, but it does not contribute to a negative sense of self, low self-esteem, or self-derogation.
- One or both parties may have positive emotional experiences in the relationship.
- Disagreements are present and may be resolved, but resolution is not always to the mutual satisfaction of both parties.

2 - Fair Quality
• It is unclear whether the relationship involves caring on the part of both parties, or some
degree of caring is evident but appears to be limited.
• Some positive features may be present in the relationship; however, the negative features
somewhat outweigh the positive.
• The relationship may contribute to a negative sense of self, low self-esteem, or self-
derogation.
• One or both parties may at times appear to be emotionally distant in the relationship or may
have negative emotional experiences in the relationship.
• Disagreements may be recurring or resolution of disagreement may not be fair to both
parties.

1 - Poor Quality
• The coder may question whether this is a salient relationship, or the relationship is
exploitative, hurtful, and/or destructive to one or both parties.
• Very few positive features are present in the relationship. Negative features are clearly
evident, e.g., lack of trust or mutual caring, selfishness, insensitivity to one another’s needs
and wishes, unfaithfulness, disrespect, active rejection, controlling behaviors. (Note: not all
negative features need to be present, but negative features clearly characterize this
relationship.)
• The relationship contributes to a negative sense of self, low self-esteem, and self-derogation
for one or both parties.
• One or both parties may be emotionally distant in the relationship or may experience mostly
negative emotions.
• Chronic or intense conflict may be present in the relationship.